JUNE 13, 1942

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Railway Age

Meets the Demand

WHEN the six General Motors 5400 Hp. Diesel Freight Locomotives go into service on the Baltimore & Ohio, they will release a considerably larger number of heavy steam locomotives, including five Mallets, for other important services. This is another outstanding example of how GM Diesels make it possible for the railroads to meet growing war production demands for increased motive power capacity and with savings of more than 50 per cent in vital materials — because one ton of materials in a GM Diesel will do the work of more than two tons of materials in a steam locomotive.

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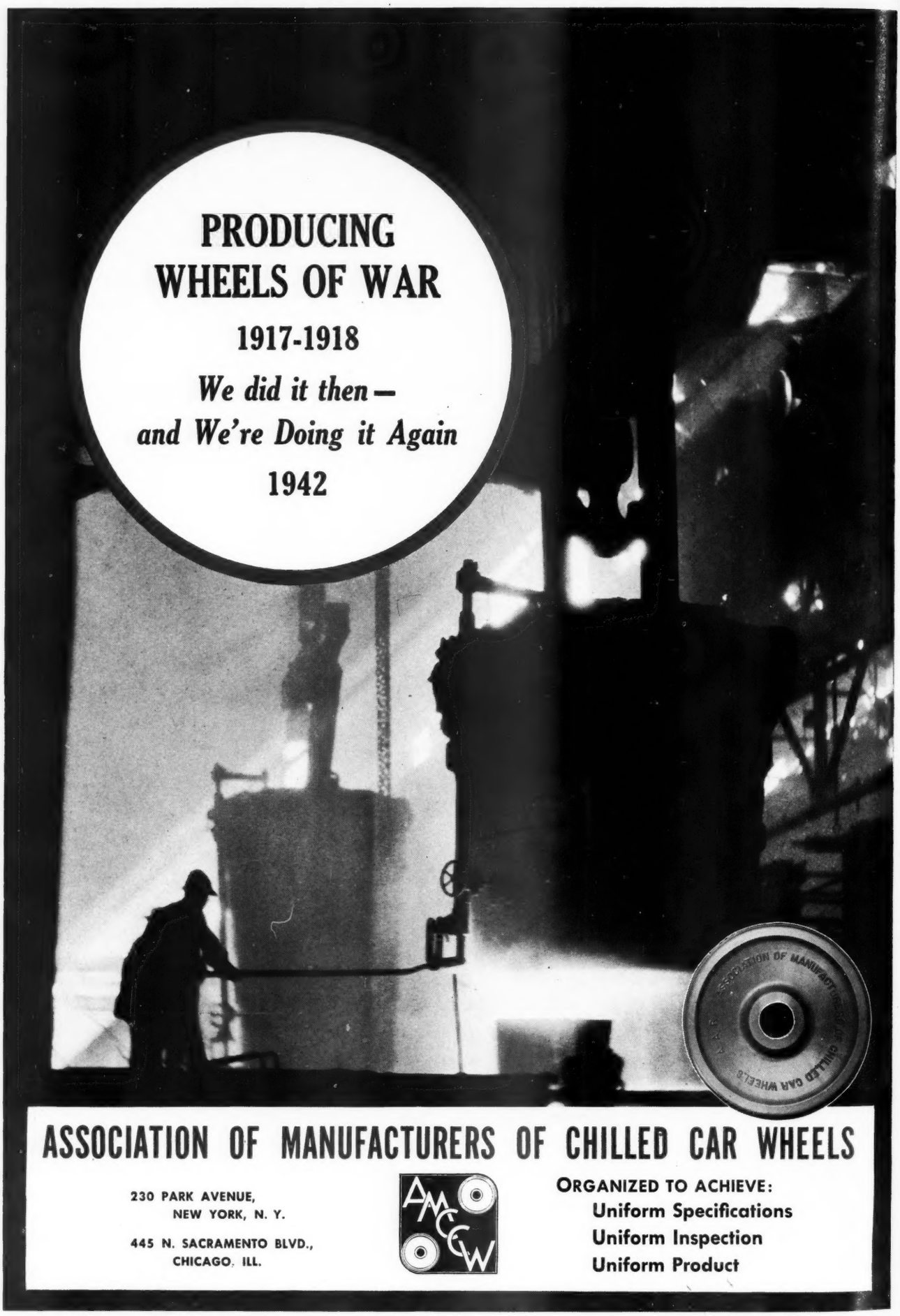

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Increasing Coal Car Capacity by Shaking Down the Load 1149

This article sets forth the experiments carried on by one of the country's largest steel companies, operating coal mines and a railroad, to meet the demand for more cars.

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The Week at a Glance

EFFICIENCY FOR VICTORY: Winning the war is a process of diverting the full productivity of the machines and the man-power of this nation—with minimum waste—to tasks and products which will injure the enemy and limit his power to hurt us. The railroads are not on the fringe of this effort, but are right at the heart of it. The leading editorial herein points out that *economy* is now a secondary consideration. The present job is to move what needs to move with the labor and materials *available*—and that may often mean working at abnormal cost. The railroads have already done what unbelievers thought "impossible." There will be more miracles when every railway officer, supervisor, and employee is doing his job with the utmost efficiency he can command and is *constantly striving to learn from others* ways in which he may still further improve the efficiency of his part of the nation's transport task.

●

BRIDGES NEED LOOKING AT: With branch lines handling main-line tonnage density, and the desirability of using larger power on them, the necessity for bridge-strengthening has become acute in some localities. An editorial herein suggests some of the steps which can be taken to meet this contingency, with a minimum call on scarce materials. But the acquisition of new tools and scarce materials cannot be flinched—the editorial contends—when such is the only means there is to make the bridges stand up under the job they must do.

●

2 KINDS OF CENTRALIZING: Clamor for "centralization" of transportation under direct government control continues in uninformed quarters. This agitation neglects to consider that far more effective inter-railroad collaboration exists today than that which federal authorities were able to enforce in the last war. An editorial herein points out that federalization of transportation in 1918 was able to step up railroad output only 3 per cent over 1917. In strong contrast—the railroads today, by the type of voluntary collaboration they are practicing, produced 12 per cent more freight service in '40 than in '39; 27 per cent more in '41 than in '40; and are currently turning out about 20 per cent more in '42 than they did in '41. Why change from a form of "centralization" which is successful to one which, in the last war, proved its inadequacy?

●

BRANCH ABANDONMENTS UP: For the first five months of the current year the railroads filed 75 applications with the I. C. C. for permission to abandon segments of line aggregating 1,055 miles. In the similar 1941 period 45 such applications were entered, involving 739 miles. The situation is surveyed in a report in the Railroads-in-War news pages herein. The move of the railroads to abandon lines of limited or negligible usefulness is prompted particularly by a desire to put the steel to work where it will contribute more effectively to the war effort. Obstacles, of course, are the greater use to which some of these branch lines are now being temporarily put—and the recent Supreme Court decision which empowers the I. C. C. to fasten a "labor-protective" proviso on abandonment permits.

●

RRS NOT HANDMAIDENS: Joe Eastman at Cleveland this week told the mechanical engineers that the newspapers have been informing the people that production is coming along fine, but "now the hot spot is transportation." In his polite way, the ODT Director demonstrated the absurdity of that report. Since transportation enters into every step of the productive process, it is manifestly impossible for production to be satisfactory and for transportation not to be. As Mr. Eastman put it: "Transportation is more than the handmaiden, it is the 100 per cent partner of production. If the war production program has progressed satisfactorily, that in itself is proof positive that the vast amount of transportation upon which production depends has been performed adequately and efficiently, which is the fact."

●

MAKING WHAT WE HAVE DO: It was quite a meeting—the railroad mechanical engineers session at Cleveland where Mr. Eastman spoke—and in our next week's issue we are going to bring you an extended report of the discussion. The general subject was the means of doing the best possible job of railroading with materials now available and the advice some of the best minds in the business have to offer on that score ought to make practical and important reading for all railroad men, busy as they are. Director Eastman quoted a WPB official as stating that the railroads are short of materials "but not of imagination, efficiency and powers of adjustment."

●

DECELERATING PASSENGERS: In the interest of the efficiency of its freight service—as well as maximizing the passenger-mile output of its passenger trains—the New York Central has found it desirable to slow-down the schedules of some of its service. Details are given in the news pages herein. Some of the leaders of the Central's fleet, including the "Century," are not affected — but other long-distance runs have been moderated by times ranging from 10 minutes up to more than two hours.

●

OVERTAKEN BY BUSES: Long-haul buses in February handled more passengers than the railroads did in coaches in the same month—for the first time in history. This disclosure is made in the I. C. C. monthly review of transportation statistics, summarized in the General News pages herein. The revenue side of the picture is different, though—the railroads receiving about twice as much for their coach service as was paid by bus customers, the difference being explained by the much shorter rides of the bus patrons and the lower fare per mile. The I. C. C. statement reveals some load-factor figures for air lines —some running upward of 80 per cent; and draws attention to the railroad operating ratio in the first four months—the lowest since 1916.

MORE COAL PER CAR: A steel company, looking around for more coal-moving facilities—and quickly—found that its car bodies were not large enough to put capacity loads on its trucks, so, as cars are shopped, their cubical capacity is being increased. This process, however, was too slow to meet the immediate need—so this company's inquisitiveness led it further. Pushing the coal into car corners helped some. Then it was discovered that a little jostling of the car shook the coal down 10 inches, so an oversized heap was loaded onto each car and interest of crews was aroused to do the shaking down without spilling the coal. The result was that the average load of each car was increased six tons. An article herein gives the details of this accomplishment, revealing further loading efficiency attained by reducing moisture content.

●

BLACKOUTS DON'T STOP SP: It so happens that thoroughgoing blackouts have been necessary in an area which affects one of the most strategic of the country's railroads, the Southern Pacific. An article herein tells how this road is dealing successfully with this further difficulty. At first the company ran into much confusion, arising from the ministrations of a multitude of zealous and inexperienced local defense authorities—practically stopping train operations in some instances. But this was contrary to the desire of the military authorities, who needed this railroad in their business. So the railroad gets its blackout instructions from regional rather than local authorities and has worked out a *modus operandi*, described in our article, which should be helpful to other carriers facing a similar, if so far less acute, problem.

●

FEATHERBED COSTS: The ODT has presented to Judge Hilliard, sitting as arbitrator in the T. P. & W. wage and working rules dispute, figures which show that the wages and working rules the operating unions are demanding would increase the wage costs for such labor to the railroad by 206 per cent, or from $18,000 a month to almost $57,000. Details are given in the general news pages herein. On a typical train movement, a crew now getting 10 hours' pay for 8 hours' work would have to be paid more than three days' wages for this work. The railroad, under the proposed rules, would have to double the number of hostlers it employs and increase its car inspection force 17 per cent.

●

WAR LABOR PANEL: A permanent "fact-finding board"—or rather a panel of nine who can be assigned to report on railway labor disputes without the necessity of a strike vote being taken to create an "emergency"—has been named by President Roosevelt. One of the members of the panel is Judge Stacy of North Carolina who chaired the 1938 board which recommended against a wage reduction. Other members include two gentlemen with experience as referees for the Railroad Adjustment Board. The chairman is Dr. Leiserson.

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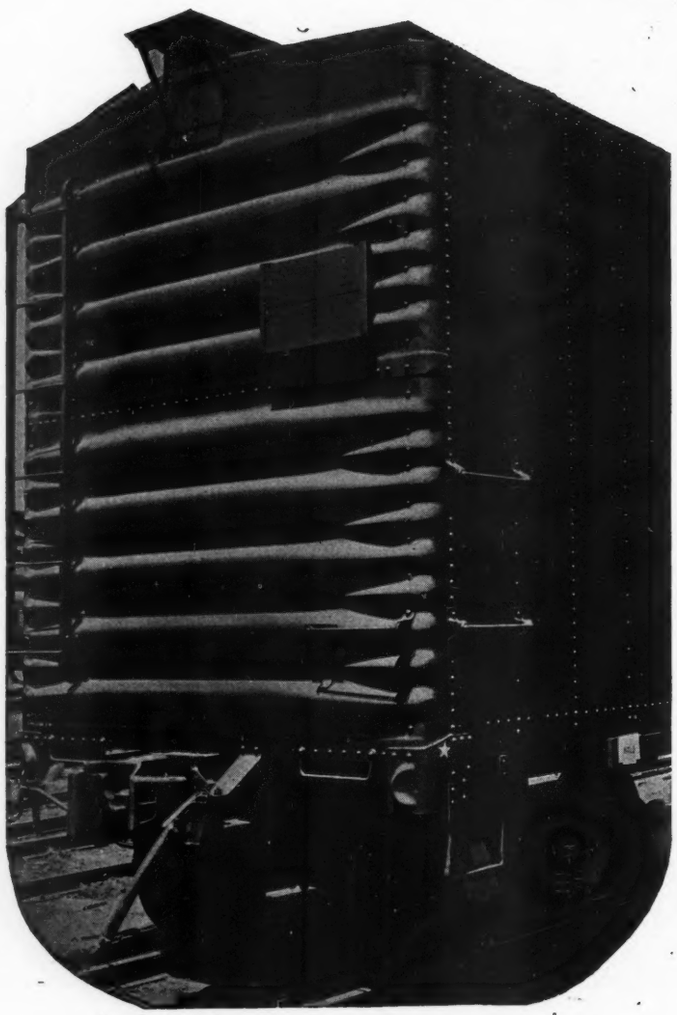

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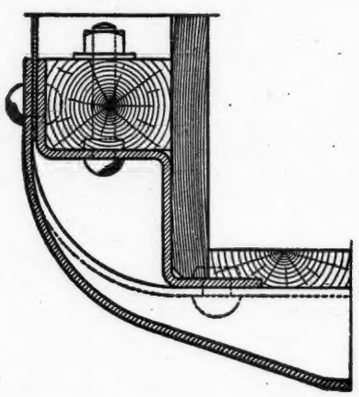

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RAILWAY AGE

Efficiency for Victory

VICTORY must be the objective of all American efforts "for the duration." And EFFICIENCY is essential to victory—efficiency in government, in industry, in railroading, on all our widely scattered military fronts.

Efficiency in railroading always includes economy; but for the duration every other consideration must be subordinated to making the railways render *adequate service.*

They will lack materials, equipment, other facilities. They will lack manpower. But they must handle the utmost possible traffic, anyway. It would be *economy* to buy many new things. But it will be necessary uneconomically to increase the useful life of many old things. The traffic must be moved — economically when possible; at abnormal cost when unavoidable.

On the "firing line" are 440,000 railroad men, officers and employees, operating locomotives, cars and trains. Their problem is, without normal increase in manpower, to so switch, load, move locomotives, cars and trains as to produce hourly, daily, monthly the utmost possible ton-miles and passenger-miles. The number of railway employees *cannot* be increased as in 1917 and 1918.

There are 350,000 railroad men, officers and employees, providing and applying materials in maintaining and reconditioning locomotives and cars. Their problem is, without normal increase in manpower, fully to maintain and recondition whatever equipment may be *available* with a minimum of scarce materials—for too little new equipment will be available, materials ordinarily used are scarce, labor is becoming scarce.

There are 255,000 railroad men, officers and employees, providing and applying materials in maintaining and enlarging yards, terminals, tracks, signaling, buildings and other "permanent structures." Their problem is to make the tools, materials and labor *available* put and keep all permanent structures in good condition. For materials and labor for this purpose also are scarce, while good condition of structures is essential to efficient use of equipment.

The government's program for defense and war was started two years ago this month. There has been since then no "business as usual" on the railroads. They had already started their program of preparedness by increasing their purchases of equipment and materials from $400 million in 1938 to $700 million in 1939, when the war began in Europe. They increased them further to $850 million in 1940; to $1,228 million in 1941; and were still increasing them in 1942 until government decreed otherwise.

Although they could not get anywhere near all the equipment and materials they ordered, the railroads are one great industry, vitally essential in peace and war, that has as yet had no failures or "shortages." Because it has *not* been with them "business as usual," it *has* been with them thus far almost "service as usual." Within two years their freight traffic has increased 50 per cent, and they have been denied equipment and materials actually ordered. And yet on May 23, 1942, they still had a surplus of 62,000 freight cars.

It is a record to which every railway officer and employee has contributed—a record of unprecedented achievement of that "efficiency for victory" to which all Americans must contribute to make victory not only sure but swift.

Can it be maintained? Future difficulties will be greater. But what has been done already was "impossible." All unbelievers in the vitality and resourcefulness of the railways under private operation knew it was "impossible," and said so; only a "miracle" would accomplish what railway management promised. But thus far it has been accomplished; and the miracle worked already is challenge and inspiration for working more miracles in future.

Co-operation Versus Centralization

The impact of the war load is falling unevenly on the railroads. Some carriers are called upon to deal with a traffic a hundred per cent or more above last year, while a few—because of local conditions—have less traffic than then. That *all* are continuing to give prompt and efficient service affords a measure of the *voluntary co-operation* helping to solve the particularly acute problems of *some*.

If the demand for cars on one railroad is greater than it could reasonably be expected to fill, the necessary additional cars are made available by other roads through the smooth-functioning machinery of the Car Service Division of the Association of American Railroads. Likewise with locomotives; railroads which have power to spare are lending or selling units to those having an insufficiency. The same is true of other facilities. James M. Symes, vice-president of the Pennsylvania, expressed the condition very succinctly when he said (in an article in our March 7 issue): *"The facilities of our railways are pooled more than those of any other industry, and that is an important reason why throughout our defense and war efforts thus far the railroad industry has succeeded in meeting all demands upon it better than any other important industry."*

Some well-intentioned newspaper writers and radio commentators have been clamoring for "centralized" control of inland transportation. Had they troubled to inform themselves they would know the degree to which railroad facilities have been effectively "pooled" under private management already. During the last war, the "centralized" government administration was able in 1918 to increase the freight service rendered less than 3 per cent above that performed in 1917. Under the voluntary, co-operative pooling now practiced railroad freight service increased almost 12 per cent in 1940 over 1939, and more than 27 per cent in 1941 over 1940; while a further increase in 1942 over 1941 of more than 20 per cent is now being registered.

Why the contrast? Under federal control in 1918 all or most of the instructions as to *how* rolling stock was to be distributed and conserved were issued from Washington or regional offices. Too little responsibility for the *how* of conserving it was left to local authorities. The type of joint action now prevailing does not go a great deal further than to tell the individual railroads, and segments thereof, *what* is wanted of them —depending on *them* for the ingenuity and work necessary to produce the results. A system of pooling which commands the energy and ability of thousands of local railway officers has a far greater chance of success than one relying on only a handful of centralized authorities.

Those who insist that we need a greater degree of centralized authority over transportation in Washington are urging that an unsuccessful type of collaboration tried during the last war be substituted for one which is every day proving itself highly successful during this war.

At the same time, railroad men must realize that they are "on the spot" to make voluntary co-operation yield the very utmost possible. One of the best-informed federal officials having to do with transportation has said: "If private operation should fail during this war, the failure will come because some carrier is particularly hard-pressed and the others neglect to lend it all possible aid. If railroad men all will become convinced that the slightest failure *on any railroad* is the concern and responsibility of all, just as much as if the difficulty were arising on their own line, then there will be no breakdown."

Net Ton-Miles of the Larger Railways in March, 1942, in Percentage Variation From March, 1941

Alton	+43	Lehigh Valley	+29
Atch., Top. & S. Fe. (incl. G. C. & S. F. and P. & S. F.)	+59	Long Island	+ 6
Atlantic Coast Line	+52	Louisville & Nashville	+ 5
Baltimore & Ohio	+33	Minneap., St. P. & S. St. M.	+42
Boston & Albany	+79	Missouri Pacific	+43
Boston & Maine	+50	Mo.-Kans.-Texas Lines	+53
Central of Georgia	+ 6	New York Central	+22
Central of New Jersey	+26	New York, Chi., & St. L.	+43
Chesapeake & Ohio	− 4	N. Y., N. H. & Hart.	+47
Chi., Burl., & Quincy	+22	Norfolk & Western	− 2
Chicago & Eastern Ill.	− 7	Northern Pacific	+49
Chicago Great Western	+13	Pennsylvania System	+24
Chi., Milw., St. P. & Pac.	+19	Pere Marquette	+ 9
Chi. & North Western	+22	Pitts. & Lake Erie	+10
Chi., Rock Is. & Pac.	+35	Reading	+21
Chi., St. P., Minn. & Omaha	+28	Seaboard Air Line	+48
Delaware & Hudson	+54	Southern	+22
Del., Lack. & Western	+18	Southern Pacific-Pacific Lines	+54
Denver & R. G. Western	+43	St. Louis-San Francisco	+21
Duluth, Missabe & Iron Range	+629	St. Louis-San Fran. & Texas	+33
Elgin, Joliet & Eastern	+14	St. Louis Southwestern Lines	+85
Erie	+17	Texas & New Orleans	+78
Grand Trunk Western	− 2	Texas & Pacific	+33
Great Northern	+47	Union Pacific	+37
Gulf, Mobile & Ohio	+18	Wabash	+20
Illinois Central (incl. Y. & M. V.)	+44		

Delay-Consciousness

When the railways are being pressed to secure the maximum productive service from every car and every locomotive, delays assume new importance; for every unnecessary delay restricts capacity. This gives incentive for the development of a "delay-consciousness" on the part of every officer and employee involved in the movement of traffic—and to none more directly than the division superintendent and his trainmasters.

More than ever, these officers must study the movement of their trains to ascertain where they are delayed. Only then can they ascertain the causes of delays and the means for eliminating them—which frequently are obvious and simple.

The most difficult problem is to develop the proper attitude of mind. From long experience on a division or district it becomes natural for an operating officer to conclude off-hand that a delay is unavoidable because it has always occurred and to pass over a condition that a more inquiring mind would uncover. Such an attitude ignores an improperly located crossover that

retards switching; a coaling station that is not readily accessible to locomotives or the entrance to which is blocked by standing power; the dispatching of trains in a way that causes them to "bunch" at certain points, with resulting congestion; a water tank that is too small to provide storage adequate for a fleet of trains; or a method of doing track maintenance work that imposes slow orders for purposes of convenience in conducting repair work rather than for safety or necessity.

Whatever the condition that gives rise to a delay to trains, it warrants evaluation anew in the light of present traffic necessities. Then the proper remedy can be determined, whether it involves a revision in operating or other methods or the improvement of physical facilities. To the extent that the elimination of the delay involves the expenditure of money, the solution devolves upon management. Otherwise, and especially in bringing restricted conditions to light, the responsibility rests directly upon the local division operating officers. Great progress has already been made in speeding up traffic; but the possibilities for improvement have not been exhausted.

New Attitude Needed Toward Bridge Work

Everywhere on the railways since the earliest days of their construction the safety of bridges has been as compelling as the safety of track. Especially in new structures, there has been no disposition to take chances for any cause. Engineers have designed conservatively, often with over-conservatism, to compensate for the uncertainties of local conditions, future requirements, unbalanced locomotive loads, reversals of stress, impact and many other factors; and railway managements have seldom questioned designs, in so far as the factors of adequate strength and stability are involved.

On many roads an equal concern is shown for the adequate maintenance and repair of existing bridges; but on most roads, especially for all but the most important main-line structures, bridge engineers and their maintenance forces have been called upon to perform near miracles, as the need for economy has required them to keep these structures in serviceable condition with minimum programs of protection and repair materials, and, frequently, the most inadequate equipment for carrying out their work effectively and economically.

Whether this attitude toward secondary bridges has had any justification in the past is now beside the point, as under the increased and shifting traffic of our wartime transportation, invariably at higher speeds, many branch lines are now carrying main-line tonnages, hauled by heavier power, while adequate skilled bridge labor is becoming increasingly difficult to secure. As a result, many of these structures must have increased attention, and that promptly. Added repair and strengthening materials must be had, methods must be employed that will create minimum interference with traffic, and equipment must be provided that will make such methods possible, while employing available forces with the greatest efficiency.

To accomplish the work that must be done may require materials that can be secured only with high priority ratings; the extensive use of welding; special piles that can be driven by off-track equipment with minimum interference with traffic; floodlights for two and three-shift operations; compressors and generators, with adequate complements of power tools to minimize hand labor and speed operations; and many other things that branch-line bridgemen have seldom seen except in books and trade literature.

It may have been to the credit of these men that they have done so much with so little in the past in the interest of economy; but today, in the light of our war effort and increased traffic demands, they must not overlook the fact that past conceptions of wise economies may prove most unwise and short-sighted. Wherever new conditions, affecting the safety and adequacy of bridges, warrant increased expenditures involving materials, equipment and modern labor and time-saving methods, those in direct charge of bridge work should not hesitate now to ask for them promptly.

The comment on the long-run traffic outlook, heretofore usually appearing in this space, will be found on page 1154.

Concentration on Small Things

"To the man in the street the fact that the railroads are at this moment moving about 25 per cent more tons in fewer carloads than in the same period of 1941 is interesting but does not strike him as sensational. The seasoned railroad man who knows that to do this requires a continuous overall concentration upon small things can realize the intensity of co-ordinated attention it requires from everyone concerned, from the shipper himself up to the operating tops. It is in fact a great and swift improvement in practical technique which for over forty years has been continuously bettered.

"This year will show probably the largest increase in average carload of any year in the entire history of the industry. Incidentally, the whole plant is using about 20,000 fewer locomotives than fifteen years ago, with about 20 per cent less total tractive power, while the freight car inventory has dropped some 700,000 in the same period and total car capacity about 20 per cent. Yet ton-miles carried are the highest on record, probably by 25 per cent. Even to the lay mind the figures spell a 'good job,' but to the informed observer, they picture an absolutely first class performance.

"Yet, never in all the century of the industry have the market values of railroad stocks registered so low a level in relation to the net earnings capacity that they represent as they do today. What is wrong with this picture?"

From an editorial in the Wall Street Journal

Blackouts—

But No Blot-Outs of

On the

INSTINCTIVELY, and with the full approval of the army, the navy and the Office of Civilian Defense, the Southern Pacific keeps its trains rolling during blackouts along the Pacific Coast. To slow down or stop its intensive operations during blackouts at any point along its Coast route, which has been called the "Burma Road of the West," would serve the enemy even though he were thousands of miles away at the time, and, in its all-out war transportation effort, there is no thought or intention of doing this on any portion of the road.

To "keep 'em rolling" during blackouts, however, in offices, in freight and passenger stations, in yards and out on the line, many precautionary measures have been taken, some pioneered by the road and developed with the greatest haste following the incident on December 7, 1941. Thus, offices, stations, terminal and shop facilities and other buildings over the road are prepared to blackout on a moment's notice with the least interference with normal operations; signal, switch and exterior train lights have been hooded to prevent visibility from above; and special precautions are taken to blot out all interior train lighting, firebox flashes, and even white steam and smoke from locomotives that could, conceivably, be a telltale to enemy airmen.

With the beginning of the present emergency, with the quick formation of many local and state civilian defense councils, each with its own ideas as to how blackouts should be conducted and the action to be taken by the railroads, there was considerable confusion which, in some instances, practically stopped train operation during blackout periods. This was contrary to the desires and needs of the army and the navy, each of which was calling upon the railway for the greatest effort in the prompt handling of materials, equipment and men, and who, while mindful of the importance of concealing vital railway installations and telltale train movements from the enemy, realized that the enemy would be served in a substantial way if vital railway operations were slowed down materially or brought to a standstill for any cause. Therefore, hastily-arranged conferences between representatives of the railway, the army, the navy and regional defense organizations were called to determine the railroads' part during blackouts—these conferences resulting in the one major conclusion that the railroads, in so far as possible, must continue their train operation during blackout periods.

To avoid numerous demands on the railways by local defense organizations, the regional office of the Civilian Defense Council issued instructions to state officers that all instructions to the railroads as to the observance of blackouts would be handled by the regional office, and that they should issue orders to all local defense councils

Hooded Dwarf Signals Are Fully Visible to Approaching Trains, But Cannot Be Seen from Overhead

Operations

Southern Pacific

Hoods on locomotive and signal lights and various means of obscuring interior lighting permit "Business as Usual" in road's war transportation effort

Metal Hoods Shield Locomotive Hoodlights From Enemy Airmen

that these councils were not to issue instructions relative to the observance of blackout conditions on the railways as affecting the operation of trains. This clarifying of the situation greatly simplified the problem of the Southern Pacific as it set out to black out its operations effectively, while interfering to the least possible extent with the normal movement of trains, not only on main lines, but in yards as well.

Buildings Go Dark During Blackouts

The three principal problems presented to the road during blackouts while attempting to maintain "business as usual" in so far as possible, were to blot from overhead view its trains under operation, its extensive system of roadway and yard signals, and its scattered hundreds of buildings of widely varying type and character. To meet the requirements of blackouts as regards buildings, the road has followed, in general, the instructions and suggestions contained in the booklet entitled, "Blackouts," issued by the National Civilian Defense Council and approved by the War department. In line with these instructions, the railroad is now prepared to black out its buildings, not alone where employment is irregular during night hours, but also all buildings, including offices, shops, signal towers and passenger stations, where operations continue regularly during the night. At those locations where night employment is not regular, the requirements for blackouts are met by extinguishing all lights and by stopping such work as may be under way. In all other buildings where night operations are essential, a variety of methods of obscuring light from windows has been employed, including the use of blackout paint, the provision of black shades and the installation of adjustable shutters or removable blackout wood panels. However, in its use of these various means, the railroad has held to the thought that, to the largest extent practicable, blackout means should be such as to permit adequate ventilation under all conditions and be readily removable during daylight hours so as to permit day forces to work with maximum efficiency and safety under proper lighting conditions. To this end, the road is making extensive use of Douglas fir plywood window blackout panels, these being made of $\frac{1}{4}$-in. or $\frac{5}{16}$-in. plywood, framed to fit snugly against the window casements, and readily installed or removed as conditions require.

Effecting blackouts at terminal passenger train sheds, and the handling of passengers, mail, baggage and express at the larger stations, have not been solved satisfactorily as yet, this being due largely to the fact that present general instructions for blackout observance prevent the movement of vehicular traffic in the city streets, and, consequently make it impossible for passengers as well as baggage, mail and express, to reach passenger stations during blackouts. Under these conditions, where a blackout occurs at or immediately preceding the leaving time of a passenger train, the train is held until the end of the blackout period in order to receive its passengers, and mail, baggage and express, if any. During the time that trains are held under these conditions, the train platform lights are extinguished, as there is little movement of passengers and practically no work to be done. If later revisions of the general blackout require-

Blackout Hoods On the Lights of a Grade Crossing Signal

ments permit vehicle operation to and from stations, means will be devised to permit the loading of trains during blackouts under limited lighting conditions.

Shades Pulled, Lights Out, in Trains

With the blacking out of train lighting equally as important as that of building lighting, and in many instances more so, the measures taken during blackouts to prevent the discernment of trains from overhead are even more positive and stringent than in the case of buildings, extending, in part, to all night hours, for the duration of the war, regardless of specific blackouts. Thus, for the duration, the windows in all baggage, express and other head-end cars, as well as the windows in the washrooms of all coaches and sleeping cars, have been blacked out permanently with black paint. Likewise, all of the Gothic sash and other similar windows in lounge and observation cars, and the windows in the pantries, kitchens and passageways of diners, have been blacked out permanently. Furthermore, for the duration, train crews are required to see that all window shades in passenger cars are lowered during the night hours and that minimum illumination is provided, irrespective of specific blackouts. In this latter regard, blue "night" lights of 15-watt capacity have been installed in the vestibules and passageways of all passenger cars.

When a train runs through a blackout district or area, all interior lights are extinguished, with the exception of the "night" lights, even though the window shades are drawn, to avoid the possibility of any glare to the outside through openings around the shades or the carelessness of anyone in raising a shade. Notices relative to the blackout precautions called for are posted in all cars, and request passengers to co-operate to the fullest extent. Unaccustomed to the feeling of restriction occasioned by the drawn window shades at night, or the desire to look out into the darkness, regardless of what little might be seen, there was, at first, a period of resistance on the part of a small percentage of the passengers to the measures imposed. Today, however, through education and a realization on the part of passengers that war-time precautions are essential, this situation has practically ceased to be a problem.

To meet blackout requirements as regards the exterior of trains, hoods have been provided for locomotive headlights, marker lights and classification lights, and also for the marker lights at the rear of trains, these hoods being made from sheet iron and so shaped as to provide a directional beam, with no light rays projecting upward. The headlight hoods are 12 in. long; the classification light hoods 3 in. long; and the marker lamp hoods 3¼ to 3½ in. long. It has not been found necessary to shield train indicators and the engine numbers on headlight cases.

As a further precaution, all display tail signs on the rear of trains have been extinguished for the duration, and all oscillating-type headlights are turned out during blackout periods. Instructions have been issued to train and engine crews that, when running, and blackout signals are heard or a blackout is indicated by extinguished street lights, the train is to proceed as usual, the engineer dimming the regular headlight, drawing the cab storm curtains and taking precautions to prevent flashes from the firebox in-so-far as possible. Under no conditions are marker lights extinguished.

All Forms of Signal Lights Shielded

To make blackouts effective so far as roadway signals are concerned, all train order, interlocking and automatic block signals have been shielded or hooded, these hoods, of sheet iron, varying in shape and size to meet the different types of units involved, and extending out from the lens or roundel in each case a sufficient distance to cut off upward beams of light—usually from 10 to 24 in. Wig-wag crossing lights and switch lights on the main line and in yards are also hooded, the hoods on these lights extending out from 4 to 4½ in. beyond the

Long Hoods Cut Off All Upward Light Rays From Roadside Signals

Note the Flexible Gaskets That Prevent Leakage of Light Between the Lamp Case and the Roundels of This Dwarf Signal—Also, the Long Rounded Hoods

lenses. In all cases, these hoods are painted a dead black. Like the signal lamp hoods, these latter hoods are also of sheet iron, except in the case of switch lights where clearances have been impaired, in which case a flexible material has been used.

A special blackout precaution adopted for all switch lights is to paint the lower segments of their lenses black, it having been found in many cases that the light emitted from the lower portion of the lens produces a reflection on the track rails which is quite noticeable. Painting the lower segments of the lenses, usually up to the lower limits of the center bull's-eye, completely eliminates this reflected light.

In the past, the public commissions having jurisdiction over the railways in California and Oregon have, in some instances, required supplemental lights at grade crossing signals. However, since the event of blackouts on the Coast, the commissions in both of these states have issued orders releasing the railroads from the requirements of their previous orders or decisions as to these lights, where it becomes necessary to extinguish them to meet the blackout requirements of the Regional Defense Council. All hand lanterns used by crossing watchmen are hooded to cut off any upward beams, and when not in use protecting trains, watchmen are required to shield their lanterns or to otherwise obscure them.

Navigation Equipment Affected Too

Blackouts of aids to navigation are being handled in line with instructions from the United States Coast Guard in the particular naval districts involved. In most instances, these instructions permit the continued operation of all sound fog signals during blackout periods, but navigation lights must be extinguished during these periods unless they have been equipped with suitable hoods to prevent their being visible from above. Navigation lights may be relighted during blackout periods if necessary to permit the safe passage of vessels which are unable to anchor promptly at the outset of a blackout period. Ordinarily, however, vessels are required to anchor during blackouts, where possible, making navigation lights unnecessary.

After all of these precautions had been put into effect on the Southern Pacific's lines in the Pacific Coast area, an observation test flight was conducted by the Interceptor Command of the United States army to determine whether the precautions met the requirements for an effective blackout. In general, they were reported to be highly satisfactory. However, some adjustments in methods and some added precautions were found desirable. For example, on a clear dark night, light smoke and steam emitted from the stacks of locomotives were visible at a considerable height and, consequently, it has been found necessary to darken them during blackout periods. Furthermore, and for the same reason, it was found necessary to caution all engine crews to avoid the popping off of safety valves and flashes from locomotive fireboxes. The hooding of signal lights and train lights was found to be effective except at elevations below 1,000 ft. above the ground.

Additional study is being made on the Southern Pacific in connection with all phases of railroad blackout precautions, and it is expected that adjustments in details and methods will be adopted as seem advisable.

Western Lines Defend Rate Structure

INTRATERRITORIAL and interterritorial freight rate adjustments in the Western territory were upheld by the railroads of the Western district in a memorandum filed on June 9 with the Board of Investigation and Research created under the Transportation Act of 1940. The statement submitted by J. A. Farmar, chairman of the Western Traffic Executive Committee on behalf of the Western lines, is in response to a request made by the Board on March 30, 1942, in which it sought information as to the nature and volume of interterritorial freight movements; the average rate levels in the different rate territories; comparative rate levels on particular commodities in the several rate territories; methods of constructing interterritorial rates and their relation to intraterritorial rates; and the relative cost of providing transportation service in the different rate territories; and economic effects of regional differences in rate levels, of regional differences in distribution of the transportation burden between different commodities and of the methods of constructing interterriorial rates.

In its introductory statement, the memorandum calls attention to the fact that any discussion of past conditions can have little bearing upon the present or future. "In short," the memorandum continues, "never in American history have industrial and economic forces been plunged into such chaos, and never before have conditions so completely obstructed or baffled efforts to foresee or to design the future economic course of the nation as a whole or of any territorial subdivision. In general, Western railroads believe that conditions heretofore prevailing have afforded complete justification of their intraterritorial and interterritorial freight rate adjustments, which were and are the effects, not the causes, of those conditions. And they believe that if the end of war restores former fundamental economic factors, the freight rate adjustments of the future must respond in similar fashion, as in the past, to the influences and demands of those factors."

"There is no known method of determining the average rate levels in the different rate territories," the memorandum sets forth. "The kind of traffic that constitutes the principal tonnage in one territory is with few ex-

ceptions different from that in other territories. The average hauls vary. Comparisons of ton-mile earnings which might appear indicative of average rate levels have remote, if any, relationship to actual rate levels. They denote receipts from various services, from widely diversified tonnage. They are produced by rates and divisions of rates, but they throw no light on the rates themselves. They are principally useful in measuring average earnings for units of service, or for analyzing a single rate for comparative purposes. Class rates likewise have little value for measuring average rate levels. While there is some movement on normal class rates in the West, it is slight. The substantial dissimilarities in kinds of traffic handled in volume, also the considerable variations in hauls in the West as compared with the East and South, clearly demonstrate the impracticability, if not the impossibility, of arriving at an average rate level in the several rate territories."

A tabulation of 24 groups of commodities which constitute the principal traffic moving in Western, Eastern and Southern territories was included in the report to show such a wide difference in the traffic consists of the Western and Eastern districts as to prove the impossibility of arriving at any comparable figures. "These commodities 88.6 per cent of all of the carload traffic originated in the West, 89.87 per cent in the East and 88.75 per cent in the South," the report continues. "In the Western territory products of agriculture (including livestock), products of the forest, products of mines (excluding coal and coke), petroleum and petroleum products constitute the principal traffic. The commodities in these groups comprise 66.65 per cent of the total carload traffic originated. Manufactured products form a relatively small part of the total carload traffic originated. In the Eastern territory the commodities mentioned, which comprise 66.65 per cent of all carload traffic originated in Western territory, comprise only 13.07 per cent of all carload traffic originated. In Southern territory these commodities comprise 38.21 per cent of the total carload traffic originated. While the figures indicate that in the Western territory manufactured and miscellaneous commodities comprise 3.83 per cent of all carload traffic originated, they include traffic originating in Illinois territory, where rates are on substantially the same level as in Eastern territory. While there are no compilations presently available to indicate the volume of these commodities originating in the territory west of the Mississippi river, it is estimated that they approximate one per cent of all carload traffic originated. This compares with 6.81 per cent originated in Eastern territory and 3.02 per cent originated in Southern territory.

"The rate adjustments in the several territories, evolved over a long period of years, are designed to serve the needs of commerce in the several territories. The character of the traffic in the several territories is largely dissimilar, as is evidenced by the fact that the groups of commodities mentioned comprise only 13.07 and 38.21 per cent of the total carload traffic originated in the Eastern and Southern territories, respectively."

Economic Conditions Control Rate Levels

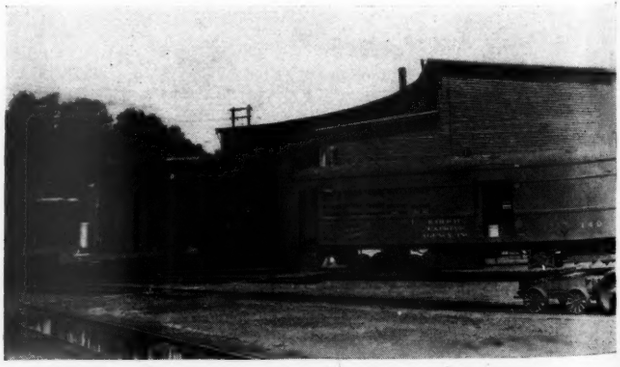
"In the form employed by the Board, there is an apparent assumption that regional differences in rate levels are responsible for regional differences in economic conditions. According to railroad experience, the reverse of that more nearly approaches the fact. Variations in the sectional activities of this country have controlled the variations in rates, for it has been necessary for railroads to adapt their pattern of charges to the economic pattern of the regions whose products they serve. They have had to treat with realities and to tie their schedules with the industrial, commercial, mineral and agricultural activities peculiar to their territory, not only in the interest of their own preservation, but in the interest of the greaest good for the greatest number.

"In the entire commodity list, the commodities whose originated tonnage, as related to total tonnage, are important in one territory and not in the others, include wheat, fruits and vegetables, live stock, fresh meats and packing house products, iron ore and logs in the West; anthracite coal, coke, machinery and boilers, and iron and steel articles in the East. The South shows no outstanding commodity important in that territory alone. Other commodities such as bituminous coal, gravel and sand, broken and crushed stone, pulpwood, petroleum, refined, fuel, road and residual oils, cement, brick, canned food products, scrap iron and steel, and paper articles vary in importance in each district.

"Despite the fact that Western roads originated 67.55 per cent of the total products of agriculture, 64.14 per cent of all animals and products, and 59.3 per cent of the total products of forests, they originated but 32.38 per cent of all traffic for the year, compared with 42.56 per cent for the Eastern roads. It is thus clear that the nature of the dominant tonnage of the Western roads must and does exert an influence upon the freight rate structure, and that the freight rate structure is not itself a creator of the economic factors which extend through, or are scattered over, the Western district. Fundamental dissimilarity in the composition of traffic constitutes a fundamental cause for dissimilarity in rates, both within and between different territories.

"It is noticeable that, while protesting any increases on agricultural products and stressing the importance of these commodities to the economic life of their constituents, representatives of certain state commissions are identified with a call for reduced class rates, usually for class rates no higher than those applicable within official territory. Naturally and inevitably, if agricultural products of such great volume are held to the lowest possible lawful rates, there is presented the problems of distributing rates on all other traffic in the light of that situation. If the basic commodities of the West are to be given this favorable consideration, then manufactured goods and other higher-rate traffic must have rate levels which, while promoting the flow of traffic, serve as a partial offset in sustaining the carriers. The theory seems to be urged that transportation charges should be distributed so that agriculture in the West should pay no more and that shippers and receivers of the higher-class goods should, nevertheless, pay less."

* * *



The Central Vermont Enginehouse at Brattleboro, Vt. The Rail-Motor Car at Right Runs Daily to New London, Conn.

Increasing Coal Car Capacity By Shaking Down the Load

Mining company's experiments with loading bin subjected to vibration helped meet an urgent demand for more cars

By George F. MacGowan

ONE of the largest steel companies, operating coal mines and a railroad, was suddenly faced with the necessity of moving larger tonnages of coal due to the greatly increased demand for steel. As blast furnace, open hearth, ore mines and coke operations were expanded the demand for coal increased proportionately.

More cars were required to replace worn-out equipment and to increase the railroad's capacity but in the meantime, while waiting for this new equipment to be built, the lack of ability to move the required tonnages was distressing and some immediate alleviation of the situation was imperative.

The first logical step was to determine whether or not the fullest utilization of equipment was being realized. A check was made of the car equipment and the scale-house weights to determine the potential capacity of the cars and to determine the actual weight of coal delivered by the car load to the coke works. This check revealed a wide difference between what could be carried and what was carried. First, there were two sizes of car trucks in use, 50 and 70 tons. There were five standard sizes of car bodies used, two on the 50-ton and three on the 70-ton trucks. Two of these five body sizes were of such cubical content that the axles could not possibly be loaded to anywhere near their capacity. These two sizes comprised about 35 per cent of the total available equipment. It was concluded that these five car sizes should be standardized by rebuilding all 50-ton cars to 1,905 cu. ft. capacity and 70-ton cars to 2,300 cu. ft. and all new cars were to be of the latter size. Experimental cars of larger size had been built in the past but this study had clearly shown that with the type of coal moved these larger cars could be overloaded past the safety factor and in view of subsequent developments were deemed impractical.

This change in practice was sufficient to give a potential increase in capacity of approximately six per cent. However, this increase would be gradual, accomplished as the cars were rebuilt or replaced. This would be a worth-while long range program but of no immediate benefit.

Car Capacity Taken Up By Moisture

The next step was to study loading procedure at the washeries. It was apparent that considerable excess moisture was being delivered to the cars with the coal. This, at first, was considered to be beyond the control of the railroad so attention was directed to placing as much coal as possible on the cars regardless of the condition of the coal. A laborer was stationed, with a long-handled hoe, in such a position that as the coal was dropped into the cars he could guide it to the sides and ends of the car, thereby assuring that fullest advantage was taken of all the space inside the car. This resulted in an average increase of 4½ tons in the loads, but by interesting the loading crews in this project, it was found that by moving the cars under the bins in such a manner that the end zones were well filled and by putting an oversized heap on the cars a further increase could be realized. When a train was made up it was noticed that the attendant jolting due to coupling and taking up slack caused the coal to settle about 10 in. into the car, thereby causing the over-size hump to settle to a normal size with all parts of the cars being completely filled. A little practice enabled these crews to perform this loading with practically no spillage in the yard. This resulted in an average increase in loading of six tons per car.

Based on the volume of coal then being handled, this increase gave to the railroad the equivalent of 92 cars per week, an increase in tonnage that would require the addition of 15 new cars (a saving in capital investment of approximately $45,000). In addition, a reduction in per-ton cost of coal at the coke works was made because the handling cost per car was fixed regardless of the tonnage.

This substantial increase in loading was gratifying but a more thorough study of scale-house weights indicated that these cars were still not being loaded to capacity due to the wet condition of the coal. It was obvious that the loading crews were putting all the coal possible into the cars, but during the 10 to 12 hours elapsing between loading and unloading at the coke works the moisture content dropped from 33 per cent to 12 per cent which meant that a fairly large tonnage of water was being hauled away from the mines to the coke works, much of which drained out gradually along the right of way. Considering the chemical nature of this dripping water this was no advantage to the track structure.

The control of moisture delivered with the coal was in the hands of the coal mine department and outside the scope of the railroad and although being adequately dealt with, the railroad decided to conduct some tests in an experimental drippage tower built as a section of a railroad car. This tower was built in such a manner that the coal was loaded at the top from accurately measured containers and the water withdrawn from the bottom. When the test period was complete the side could be removed from the tower and the dry coal removed and weighed. Exceptional care was taken with the handling and weighing to insure accurate measurements.

A charge of coal, taken from the loading bins, was placed in the tower. For the first hour the water withdrawal was made every 15 minutes, then each half hour to the third hour and then each hour for a total of 16 hours. On the second charge the same procedure was followed except a small bin vibrator was attached to the tower and operated only while the bin was being loaded. It was found that more coal was needed to fill the bin

for this charge. The water in the coal separated and came to the surface. This was allowed to remain in the bin. The results of these experiments are shown in Table I.

The coal in the vibrator charged bin was packed firmly, although not any more so than occurs during transit in the cars. Little difficulty was experienced in unloading.

This would indicate that if two large vibrators of the type used to unload cars were to be applied, one to each side of a car during the loading operation, 15 to 18 per cent more coal could be placed in the car. In addition, while the car is still under the bin the water brought to the surface by the vibrators could be overflowed by displacing with coal. It is reasonable to suppose that, in addition to greatly increasing the load in the car, the moisture content could be reduced at least 50 per cent before the car leaves the bins. In the bin tests, the rate of drippage was much more rapid on the bin using the vibrator during the second, third and fourth hours which would indicate that by loading the cars in the manner suggested the moisture content of the coal would be as low after the second or third hour as it now is after 16 hours. This would reduce non-revenue traffic and increase the life of the track structure. The coal delivered to the coke plants would be in better condition for coking due to the lower moisture content.

Table I—Moisture Test in Experimental Bin

Check Period, End of:	Per Cent Moisture	
	Without Vibrator	With Vibrator
At start of test	32.0	33.0
15 min.	24.6	28.7
30 min.	22.3	27.8
45 min.	19.7	27.0
1 hr.	18.1	26.1
1 hr. 30 min.	16.8	24.5
2 hr.	16.0	22.7
2 hr. 30 min.	15.2	21.0
3 hr.	14.7	19.5
4 hr.	14.1	17.1
5 hr.	13.7	15.5
6 hr.	13.3	14.3
7 hr.	13.0	13.4
9 hr.	12.5	12.5
11 hr.	12.0	12.0
13 hr.	11.8	11.8
16 hr.	11.5	11.5
Dry coal removed, lb.	418.49	487.92

This method of loading developed two problems; difficulty in unloading and increase in train weights. The difficult unloading conditions were an old story because of the tendency of wash coal to dry hard and crust over as the moisture drained from the coal. After several methods were tried, it was finally solved by building a platform, at the unloading bins, level with the top of the car and installing a high-pressure air line with a 9-ft. length of ¾-in. pipe as a nozzle. By manipulating these nozzles two laborers, on this platform, were able to cut the coal out of the cars rapidly without it being necessary to hammer on the sides of the cars. This unloading practice would be entirely satisfactory in the case of vibrator loaded coal.

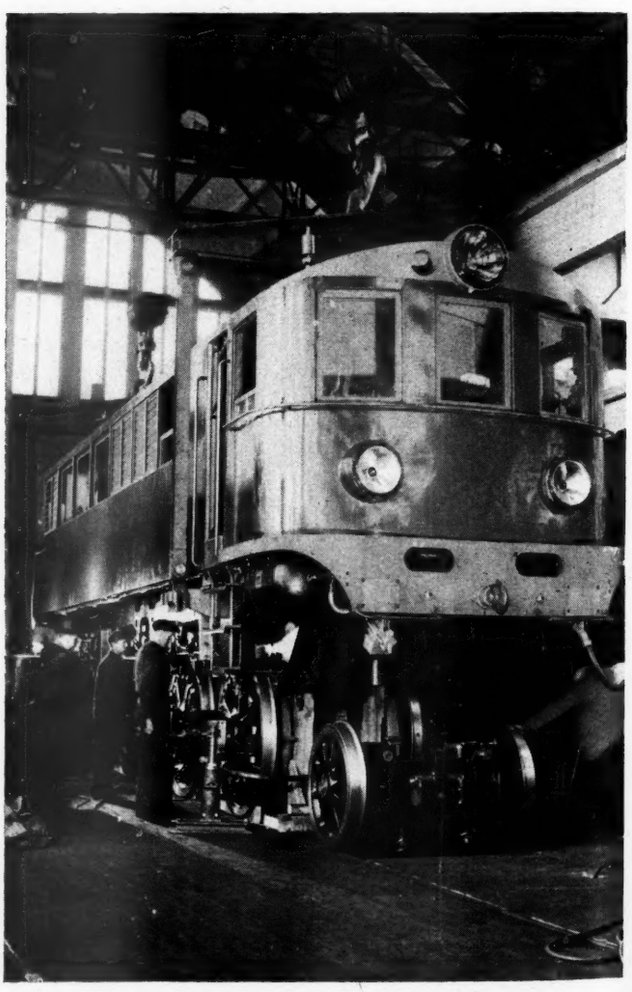
The effect of increased train weight was immediately noticed by the difficulty encountered in handling trains over ruling grades with the same number of cars previously handled without any difficulty. Under normal conditions the greater tonnage, due to heavier loads, could be absorbed in 25-car trains; in trains of over 25 cars the tonnage was fixed and the number of cars normally required to move such tonnage was reduced in proportion to the increased loadings. For a given total tonnage fewer cars were required.

As an additional advantage of the improved loading method, there may be some decrease in corrosive action on car sheets with a longer service life of the cars between shoppings.

Bigger and Faster Locomotives for Sweden

A NUMBER of new electric locomotives built by several Swedish manufacturers are now being delivered to the Swedish State Railways. The locomotives are rated 3,600-hp. and have a maximum speed of 85 m. p. h. They are designed for hauling a 600-ton train at a speed of 75 m. p. h. on level tangent track. The four driving axles are driven separately by as many motors. Previous designs employed a jackshaft and side rods. The number of steps in the control has been increased to improve acceleration and prevent wheel slipping.

An additional section of the northern main line of the Swedish Railways, a distance of about 310 miles, was recently electrified. With the completion of this section, all main lines and many of the intersecting lines of the state-owned railroads have been electrified. This last addition makes a total of 2,650 miles, or about 41 per cent. Combined with the private lines the electrified track totals over 3,000 miles. About 85 per cent of the traffic of the state lines is now handled by electric trains. Scarcity of fuel has been a primary factor in developing electrification in Sweden. The work was begun in 1910.



Photograph Courtesy American-Swedish News Exchange, Inc.

Educational Problems in Transport

Training should furnish not only specialized knowledge, but also understanding of problems and developments of the industry

By Dr. Ludwig M. Homberger*

Associate Professor of Transportation, The American University, Washington, D. C.

IN its issue of February 21, 1942, *Railway Age* published a very interesting article on the place of college men in modern railroading. I strongly feel that such a discussion is extremely helpful in emphasizing the desirability of a good educational background for transportation officials. I certainly do not want to minimize the value of the experience and training acquired by many fine railroadmen who rose to important positions from the ranks. They went up the hard way, but today everybody seems to agree that systematic training in proper schools is the best possible preparation for important jobs in business and government.

Modern Methods vs. the Hard Way

This, of course, is a more efficient method taking less time and effort than learning step by step by going through the daily routine and by observing the mistakes which the individual and his coworkers are making. The training in schools must be designed to furnish not only the factual knowledge of important data in a special field, but also to provide the broadest possible understanding of major problems that exist in this field and in its surrounding areas and to increase the student's ability to deal efficiently with all possible contingencies which might arise in the course of events. This kind of systematic education seems to be particularly necessary in railroading and in other transportation activities where personalities are needed who must possess outstanding knowledge, versatility and character.

Such an educational background, however, can be based on various lines. Professor John S. Worley, University of Michigan, has made a most valuable contribution in describing the Michigan curriculum, which stresses engineering as the foundation for transportation studies. Training in engineering is certainly necessary for many jobs in transportation, but the preparation for numerous positions of equal importance requires emphasis upon other fields, in particular upon those relating to economics, business administration and public administration. In many institutions, general transportation courses are being offered, for the most part in departments of economics or business administration. Some well known universities are offering extended programs which include a well defined transportation curriculum. One such program has been developed at The School of Social Sciences and Public Affairs of The American University in Washington, D. C., and I should like to discuss the objectives and the working of this program which might be of interest as a typical case. The studies are designed to educate present and future employees of transportation companies. They are also, however, a part of a special kind of educational process which is required by the particular needs of the Washington scene.

High-Power Transportation Work in Nation's Capital

I assume that some of the Washington developments are not generally known throughout the country. Even under peacetime conditions the activities of the federal agencies in matters of transportation had expanded considerably. These activities included and still include, promotion and regulation of all modes of transportation as well as the development of facilities in the public interest. Furthermore, it must not be overlooked that the federal, state and local governments are shippers of great quantities of freight and the travel of their employees plays a considerable role in passenger traffic. So not only have the regulatory agencies taken on a great number of specialists, but various other agencies (e. g., agriculture, commerce, war, navy, tariff commission) have organized divisions for the study of specific issues in transportation policies, such as rate making, and for dealing with the transportation needs of the government.

Even a year ago, an estimated 2,000 men and women were employed in government transportation jobs. With increasing defense problems and the outbreak of war the work of studying military aspects and of shaping policies in transportation as well as of preparing, supervising, and accounting for, transportation of government employees and shipments has grown rapidly. New agencies have been created and many of the existing agencies have multiplied the number of their transportation personnel. In recent months, an urgent demand for transportation economists, for rate clerks and for similar specialists has become evident. Opportunities for women workers will grow as an increasing number of men are called to the armed forces.

The importance of intensive schooling for all these men and women cannot be overemphasized. It is a matter not only of general public interest, but it seems to be a matter of particular concern for the industry that its vital problems be handled by competent officials who are fully conversant with the legal, economic and business aspects of the issues involved.

It might be mentioned in passing that Civil Service examination requirements for these jobs give full credit for pertinent education.

In-Service Training Program of American University

Transportation studies have been a part of the curriculum of The American University for a considerable period and prominent transportation men have been connected with the University. The faculty owes a great deal to I. C. C. Commissioner Walter M. W. Splawn, who was dean from 1929 to 1931. Commis-

* Professor Dr. Homberger was from 1909-1935 in the service of the German National Railroad, serving from 1931-1935 as Vice-President and Member of the Directorate. He also was an instructor on transportation in Germany.

sioner Clyde B. Aitchison got his doctor's degree from The American University and served on the faculty for many years. Other well known experts, such as Professor Lewis C. Hunter, Charles S. Morgan and William H. S. Stevens are members of the present faculty. Professor Hunter, for example, is an authority on the history of inland water transportation in the United States. Leslie Bryan, now professor of transportation at Syracuse was the first candidate in transportation for higher degrees and many others have followed his lead. In recent semesters, the offerings have been extended considerably and the number of students has increased. Most of them are employed by federal or private agencies and attend evening courses at the School of Social Sciences and Public Affairs which is located in the downtown area. This year the first summer to include evening classes in transportation will be held at the School.

Objectives Defined for Students

For a student body of this particular type the objectives of transportation studies might be defined as follows: (1) to give students who are primarily interested in other fields a general survey of the operating, economic and legal principles; (2) to give advanced students, holding transportation jobs or working in related fields, a thorough understanding of specific issues as well as of general problems, (3) to give students who have already acquired considerable specialized knowledge in responsible positions, a broader outlook and an opportunity for advanced research work in their own and in related fields.

These objectives are the basis for the educational program. General courses in transportation are offered each semester. The next step is courses on "Current Issues." In these courses all modes of transportation are studied, particular emphasis being given to railroads, whereas motor and air transportation are thoroughly discussed in special courses. For well-advanced students, courses are scheduled on "Co-ordinated Transportation" and on "Transportation and the Economic Life of the Country," this latter being designed for special investigations into the rates and the movement of the most important commodities and their place in the general economic structure.

Wartime Transportation Emphasized

It is not necessary to emphasize how stimulating the results of such studies are for both instructor and students, when all students are able specialists working in the various central agencies. Furthermore, research courses and seminars are available for advanced work and for thesis writing. "Transportation in Latin America" is another field which has aroused great interest among students. In all courses, proper emphasis is given to an understanding of the particular aspects of war time transportation. Up to recently, many excursions to transportation facilities were made possible through the splendid cooperation of operating companies in Washington and nearby. These excursions also offered the unique opportunity of discussing current problems with executives and operating officials. Since the outbreak of the War, it has been necessary to discontinue this part of the program.

Transportation studies are undertaken at different levels and are open both to graduates and to undergraduates, and the credits obtained can be applied toward the degrees of Associate in Administration, of Bachelor of Art, of Master of Art, and of Doctor of Philosophy. The examination requirements permit a wide range of specialized preparation.

Transportation Part of Comprehensive Program

All this work in transportation would, however, only be of limited value if it were not co-ordinated with other parts in the framework of a comprehensive educational program. At The American University, this includes economics, or business administration, or public administration, or social economy, or international affairs, or selected parts of these various fields. Transportation courses are also open to students who have previously acquired an engineering background. Statistics and accounting are indispensable tools for many activities in transportation. Training in business adminstration seems to be vital for men who want to advance in positions where skill in handling human beings and in other management activities are essential. Government employees might be interested in economics, or in public administration, or in social economy. The more that worldwide economic issues are studied the more it becomes obvious that they must include transportation at home and abroad. In all these fields, courses are offered by full-time professors and by part-time instructors. Many of these teachers were in the past or are at present high-ranking government officials who have that kind of intimate knowledge and vigor in teaching which often results from the happy combination of scientific approach and of working experience acquired in leading positions.

I feel very strongly that through this comprehensive method of education a valuable service is being rendered to the country which needs transportation men who will have ability to meet the exigencies of the war effort and of the post-war requirements.

Pullman Explains Relations with Railroads

TESTIMONY of defense witnesses continued through the second week of the current session of the Pullman anti-trust suit being heard at Philadelphia by a three-judge federal court—resumed June 1 after adjournment from November, 1941. As reported in the news pages of last week's *Railway Age,* David A. Crawford, president of Pullman, Inc., and of the Pullman Company, gave a detailed account of the relationships between the Pullman operating organization and the railroads.

After describing Pullman's part in the early development of air-conditioned cars, the witness presented a detailed explanation discussion of the arrangements under which air-conditioning apparatus was installed in sleeping cars and other Pullman equipment. In the early days of this development, he explained, Pullman offered to, and did, contract with various railroads for the installation and operation of any type of air-conditioning that the railroad favored, in spite of the fact that Pullman had developed a mechanical system in competition with others in the field. Thus it came about that Pullman cars were equipped with ice cooling systems, steam jet systems, and mechanical systems developed by several manufacturers, as well as with apparatus of their own design.

When air-conditioning was first introduced, Mr. Crawford continued, there was no agreement among technical men as to the probable life of the different varieties of equipment, so it seemed prudent to amortize

the necessary investment on a five-year basis and most contracts with the railroads were based on this provision. The cost of air-conditioning a sleeping car varied, according to the system used, from $4,000 to $9,500, an expense entirely out of proportion to the additional revenue that Pullman might expect to earn under any of the railroad contracts then in effect, so new contracts were negotiated to cover the new situation.

In general, the railroads had been receiving around 75 per cent of the entire fare paid by sleeping car passengers, while Pullman received about 25 per cent, so it was decided after a few experiments with other arrangements, to divide the cost of installing air-conditioning equipment on the same basis. Pullman provided the capital and did the work, and the railroads paid their share of the expense out of revenues as earned, or as their individual contracts provided when the revenues were insufficient. Cars air-conditioned under such arrangements were assigned to the exclusive use of the railroad that had undertaken to share the expense of the installation, though a pool of air-conditioned cars gradually developed as improved cars were substituted for some of those first equipped. As soon as the most urgent demands for air-conditioning installations had been met, Pullman began to equip regular pool cars with its own system at its own expense, adding the amortization costs to the total expense chargeable to the pool, which determined the per diem charges paid by the railroads for the use of pool cars.

Air-Conditioning Installed on 5,000 Sleepers

Altogether, Mr. Crawford testified, Pullman has installed air-conditioning equipment on about 5,000 sleepers and had spent about thirty-three million dollars for the purpose during a business depression when revenues had reached a new low and prospects for improvement were none too encouraging. Under these conditions many of the air-conditioning installations never paid for themselves, he added, and represented a net loss to Pullman as well as to the railroads, but he considered it good business to add the equipment, nevertheless, because it helped to hold some first-class traffic on the rails that would have been lost otherwise.

As the first five-year contracts expired the railroads renewed them without exception, he continued. Under the renewed contracts the charges against the railroads on account of the air-conditioning installations were much less, however, because the original investment had been fully depreciated, and the only expenses were maintenance and operation costs, with the result that per diem charges for air-conditioning dropped from around five dollars per day to about one dollar per day per car. By this time, also, the various types of equipment had been in use long enough for a standard depreciation rate to be set up, and under the new contracts the cost of air-conditioning additional cars was amortized at the rate of 7 per cent per annum as provided by Interstate Commerce Commission regulations. This provision resulted in a considerable reduction in expense for the railroads.

These terms do not apply to new lightweight sleepers, Mr. Crawford added, as the air-conditioning apparatus is an integral part of the car and a uniform depreciation rate is applied to the whole cost. Turning to the subject of contracts between Pullman and the railroads, covering general sleeping car operations, he explained the basic formula by which operating costs and net revenues are divided, and accounted in a general way for the different terms provided for railroads of different characteristics. Current contracts run for five years, he remarked, because there are so many uncertainties in the future that the old twenty-year contracts involved too much risk for both parties. Even the five-year contracts are subject to cancellation under certain conditions, and a railroad can always escape from a contract if it chooses by asking Pullman to supply excessive equipment and cancelling when the equipment is not provided. While contracts now in force generally provide that Pullman supply all sleeping car service on the individual railroads, Pullman is ready to negotiate for partial service on different terms if any road desires it, and actually does so in one or two instances. Aside from this standard provision for exclusive sleeping car service, Pullman contracts include no terms to bar other sleeping car operators, he added.

Never Any Interruption in Service

The witness stressed the point that during contract negotiations that sometimes extended over long periods of time and frequently resulted in changes unfavorable to Pullman's interests, sleeping car operations had invariably continued without interruption, and service had never been halted or reduced to embarrass or coerce a railroad.

In recent years, Mr. Crawford continued, Pullman had experienced very keen competition from the air lines, on one hand, and from the railroads themselves, on the other, particularly where modern coaches of the "de luxe" type were in service with substantially lower fares. Explaining how the fare differential had operated to Pullman's disadvantage since the railroads had begun to provide in their coach service accommodations little inferior to the best Pullman could offer, the witness argued that the differential should be reduced to a point where more people would pay it to get added luxury and space. Between the new railroad coaches and the private automobile, Pullman had lost practically all of its short-haul business, he asserted, pointing out that today some 7,000 sleeping and parlor cars normally sufficed to take care of peak business, where 10,000 were required in the late 1920's.

Mr. Crawford concluded this portion of his testimony with the declaration that Pullman for its own protection, would have to create a manufacturing division if it did not already have one, in order to secure the advantages of concentrated, standardized production. To illustrate how closely operating and manufacturing activities are related, he pointed to the expenditure of some thirty-three million dollars for air-conditioning and about thirty-eight million dollars for lightweight modern cars at a time when the operating organization was not earning a cent, an undertaking that could not have been accomplished so readily if the resources of the manufacturing division had not been available.

Inasmuch as the separation of the operating and manufacturing components of the organization had not accomplished what was expected of it, he informed the court that Pullman was about to consolidate the holding company and the manufacturing company when the present anti-trust suit was instituted, with the purpose of reducing taxes and other overhead, but had deferred taking this step while the case was in court.

At this point other witnesses were introduced by the defense, in order that the historical and technical background of various contracts between Pullman and the railroads could be put into the record in detail before Mr. Crawford was questioned about them by the Department of Justice lawyers.

On June 5 William H. Black, assistant to the general auditor of Pullman, Inc., testified concerning corporate

reports that were introduced into the record. He was followed by James M. Carry, assistant to the vice-president in charge of operations of the Pullman Company, whose testimony continued through June 8. As the result of exhaustive research into the contract relations between Pullman and representative railroads since the first Pullman car was put in service, Mr. Carry was able to trace the evolution of these contracts and to explain the circumstances that led to periodic revisions in terms and to variations in the terms among different railroads.

Among the contracts particularly discussed by this witness were those with the Burlington, Illinois Central, Santa Fe, Southern Pacific, C. & N. W., Pennsylvania, New York Central, New Haven, Lehigh Valley, B. & O., Southern, Atlantic Coast Line, Rock Island, L. & N., M-K-T, and Missouri Pacific. In the course of his testimony he went in considerable detail into the early history of Pullman service on different roads, and pointed out how their requirements varied and how various operating and maintenance practices differed. The circumstances back of special concessions made to the Pennsylvania and New York Central and, for some years, the New Haven were explained, and other exceptional conditions were related to the contract provisions covering them. It was the essential point of Mr. Carry's testimony that, in spite of such special situations, there was through the years a definite trend in all contract negotiations between Pullman and the railroads that resulted in terms steadily less favorable to Pullman, until now the profits earned from operations on a few large roads are eaten up by losses on the others.

John F. Lane, secretary of the Pullman Company and secretary and treasurer of Pullman, Inc., was the first witness on June 9. By means of several graphs and charts he indicated the course of Pullman's business since its early days. One such illustration showed that Pullman earnings had varied very closely in proportion to fluctuations in national income from 1900 to 1929, but since that date a more and more noticeable divergence was creeping in. Such statistics indicated, he contended, that Pullman not only had experienced no abnormal growth, but even had in recent years relatively lost ground. Furthermore, he said, the prospects of greatly increased competition from air lines, automobiles, and the railroads' modern coaches as soon as peace is restored were such that he feared Pullman's situation would become even less favorable. Already Pullman's share of through passenger business had dropped from 48.2 per cent in 1929 to 36.9 per cent in 1940, and in

Learning How to Do the Impossible

Thinking—unprejudiced and based on curiosity for the facts—is what is needed to keep the railroads operating at top efficiency during the war; and to enable them to plan ahead for the traffic situation they will face when the war ends.

C. A. Miller, vice-president and general counsel of the Short Line Association, in a recent address to the Metropolitan Traffic Club at New York, drew attention to some of the fundamentals of the railroad situation and outlook, which would be helpful if kept constantly in mind by those who have the industry's present and future in their keeping. Among other things he said:

"In Washington there are only two kinds of speeches. Those you agree with will 'smash the Axis.' Those you do not agree with 'will be pleasing to Hitler.' I do not think that anything I shall say will be especially pleasing to Hitler, nor do I believe that the speech will smash the Axis.

"All of us will have to change our ways of thinking. Business cannot be 'as usual.' The national good, or more properly put, the international good, must come first. I dare say that before this war is over many of us will have been educated far beyond anything we can now imagine. We shall find that many things can be done which we have heretofore thought were impossible.

"Our old friend Benjamin Franklin once said, 'Experience keeps a dear school, but fools will learn in no other.' Let us, then, go back to the days of World War I and see what we can find that may be of help to us in our thinking about transportation during World War II.

"The efforts of the railroads to unify their operations and to initiate pooling arrangements were held by Attorney General (later Associate Justice) McReynolds to be violative of the Sherman Anti-Trust Act and the Interstate Commerce Act. These factors, together with lack of proper administration at the ports along the Eastern seaboard, which had caused great congestion, were the primary reasons for the President taking possession and control of the railroads at noon on December 28, 1917.

"There are those in Washington who would be glad to see an opportunity for the Government to take over and operate the railroads and other agencies of transportation. I make a special point of excluding from this group the President of the United States, because I know that President Roosevelt feels that such action should not be taken. I know he wants the situation so worked out as to avoid that necessity.

"When the President decided that some agency of the federal government should have supervision of the operations of the transportation systems of the nation, and decided to create the Office of Defense Transportation, it was only natural that he should seek as the Director of that Office a man who has the confidence of every transportation man in the country, my friend and your friend, the then Chairman of the Interstate Commerce Commission, Joseph B. Eastman. He is able. He is fearless. What is more, he is intellectually honest.

"Assuming that transportation 'delivers the goods' throughout the war period, and that the war so successfully ends that Democracy is preserved for another 20 years, what is the hope of reward for the transportation agencies? Of all things, it is a representative in the President's Cabinet or—to put it another way, transportation is to have a seat at the Cabinet table! If that is to be the only reward, then I am not certain that the game is going to be worth the ammunition.

"Seeing things as they are, and thinking of them as they may be, it seems clear to me that there must be a keener realization of the magnitude of the transportation problem, and a more clear-sighted recognition of the importance of transportation to production. It will do no good to produce tanks, guns, and other munitions of war, if they cannot be moved to the places where they are needed for use.

"We can foresee, of course, that if there is any serious breakdown in the transportation system, there will be a hue and cry for government control of all of the transportation agencies. But that is adding to the trouble rather than solving the problem. Government operation is not the answer. Government foresight will do far more good than will government operation."

the East the drop was even greater, from 46.5 per cent to 29.7 per cent for the same years.

The next witness was Harold M. Dudley, vice-president and controller of Pullman-Standard Car Manufacturing Co., who explained how the manufacturing and operating companies arrived at the prices paid for new sleeping cars. In general, he said, Pullman-Standard is under contract to make all cars ordered from it by Pullman on the basis of cost plus 10 per cent, but this provision acts merely as a "ceiling," and the actual price is often much less than that, sometimes less than actual cost. He explained in detail how manufacturing costs were calculated with reference to labor expense and various factors of overhead expense, and how these calculations had been modified from time to time as conditions changed.

Before Mr. Dudley was cross-examined William L. McGovern, Department of Justice lawyer, repeated to the court, in the course of a discussion about points of law, the essential charge being pressed against the Pullman companies, that is, the allegation that Pullman "as a result of deliberate acquisition by purchase of all their competition have a 100 per cent monopoly of the sleeping car business, and that they have used this monopoly to stifle the development of lightweight trains and that they are using it now to restrict the producion of railroad equipment and to impose on the railroads onerous contracts."

New York State Tells Railroads How to Blackout

THE New York State Director of Civilian Protection, Major General William N. Haskell, on June 6 issued regulations setting forth the responsibilities of railroads in that state during air raid alarms. The order specifically states that "the railroads will continue to operate as near normal as possible" under such conditions.

Detailed rules for compliance with blackout requirements are included in the order. On passenger trains "car lighting shall be reduced in intensity but not extinguished. All window shades shall be fully drawn. Some form of light-stop shall be applied to unshaded windows of mail, baggage and dining cars, or lights in such cars extinguished. Vestibule or platform lights of cars shall be extinguished.

"Locomotive headlights, front and rear, shall be put on dimmer control and back-up light extinguished, white lanterns to be substituted therefor. On yard engines not equipped with dimmers, headlights, front and rear, to be extinguished and white lanterns substituted therefor. Cab lights not essential to safe operation shall be extinguished. Storm curtains shall be drawn. Firebox doors shall be kept closed except when actually putting in a fire."

Passenger station "lighting shall be reduced to a minimum required for safe operation. Vestibule and entrance lights shall be extinguished or cut down in intensity and so hooded as to reduce to a minimum the showing of light outside. Platform lights shall be reduced to a minimum and so hooded as to prevent the upward projection of light. Small suburban stations should be completely blacked out by extinguishing all lights," except that a minimum of lighting required for safe operation may be used when a large volume of traffic is being handled, as of commuters. Buildings used strictly for office purposes must be completely blacked out. Signals essential to safe operation will not be blacked out. Lighting in interlocking towers "shall be reduced to a minimum, and such lights as are necessary shall be of low intensity and so hooded as to project light downward only."

All flood lights must be extinguished. Wharves and docks must be completely blacked out. All lights, except in rooms or sections properly arranged for blackout operation, must be extinguished in engine houses, shops, coaling plants, water stations, ash pits, transfer stations, and crossing and gate houses. "Essential employees will work during blackout with low intensity flashlights showing a white light."

Highway crossing signals "of the traffic light type which show a continuous green light when clear for highway traffic, and which are unattended during the hours of darkness, shall have the *green* light permanently extinguished or treated to conform with the general treatment of highway signals. Those which are attended should have the green light extinguished by attendant during blackouts. All other highway crossing signals which are lighted only on the approach of an engine shall remain in operation as is."

New Books...

Mechanical Engineer's Handbook. Fourth Edition. Edited by Lionel S. Marks. Published by the McGraw-Hill Book Company, Inc., New York. Sixteen sections. 4¾ in. by 7 in.; bound in red leather. Price, $7.

Most of the sections of the fourth edition of Marks' Handbook have been completely rewritten in order to include the more important knowledge and points of view on standardization of machine elements, of material, and of processes which have been developed by engineering societies and other organizations since the 1930 edition. Among the new subjects are the theory of models, plastic behavior of materials, stress concentration, creep, packings, wind pressure on structures, sound and noise, automatic control of processes, and powder metallurgy. By the exclusion or condensation of matter which has become, or is in the process of becoming, obsolete, and by omitting the condensed statements of the A. S. M. E. Powder Test Codes, the book has been kept to a size considered convenient for a single volume.

Industrial Series. Industrial Supervision: Organization; Controls. By Vernon G. Schaefer, Ph.D., and Willis Wissler, The Pennsylvania State College, and others. Price of each, $1.75. Safety Supervision. By Vernon C. Schaefer. Price, $2.50. Published by the McGraw-Hill Book Company, Inc., New York. Each book 5 in. by 7¼ in., bound in cloth.

There are nine books in this series, each prepared under the direction of the Division of Engineering Extension, The Pennsylvania State College. Brief descriptions of the above three follow. *Industrial Supervision: Organization; Controls.*—These books of ten chapters each are for the use of adult groups in industry and have been prepared to fill the needs of such groups while they are actively engaged in the work of industrial supervision. They are a thorough revision of all material at hand on the subject, including Foreman Training written in 1928 by George F. Mellen and revised in 1934 by Dr. Andrew Triche. New case studies are the contributions of industrial management, industrial psychology, and industrial economics. A shift in emphasis on supervisory training to the point where the problem of getting out production in the defense effort became paramount necessitated the present revisions. *Safety Supervision.*—A discussion in 14 chapters of the human element involved in the problems of the supervisor who must promote the safety of the workers in his division. The purpose of the book is to point out the necessity for, and some of the techniques in, good safety supervision, not to discuss engineering problems of safety or of conventional problems of making and keeping accident reports.

Railroads-in-War News

ODT to Regulate All Bus Routes

Eastman issues sweeping general order placing carriers under wartime control

A general order placing intercity bus operations under wartime regulations throughout the country was issued on June 9 by the Office of Defense Transportation to become effective July 1. Intercity service, as defined by the order, does not include bus runs within 15 miles of the limits of a city, nor schedules on which the average fare is 35 cents or less.

Under the order (General Order ODT No. 11) operators of buses used in intercity service are required to:

1. Discontinue all limited or express service.
2. Discontinue schedules which do not come up to certain efficiency standards as determined by the average load.
3. Discontinue service to places of amusement.
4. Pool competitive services which cover the same or closely parallel routes.
5. Freeze present routes.

Later in the same day ODT issued two more special orders applying to specific bus operations. Other special orders of this type are forthcoming, it was stated.

Special Order ODT No. B-3, effective July 1, governs operations of the Pacific Greyhound Lines, the Santa Fe Trail Transportation Company, and the Santa Fe Transportation Company between Los Angeles, Calif., and Albuquerque, N. Mex.

Special Order ODT No. B-4, effective June 16, governs operations of the Pacific Greyhound Lines and the Burlington Transportation Company between San Francisco, Calif., and Salt Lake City, Utah.

(Pacific Greyhound Lines is a Southern Pacific affiliate; the Santa Fe Trail Transportation Company and the Santa Fe Transportation Company are affiliates of the Atchison, Topeka & Santa Fe; while the Burlington Transportation Company is a subsidiary of the Chicago, Burlington & Quincy.)

Both special orders are based on plans submitted by the companies affected. It is expected that the orders will result in a total saving of 186,840 scheduled bus miles a month. The companies are required to honor each other's tickets between all points where equal fares apply, eliminates duplicating departure times, and share depot and ticket agency facilities wherever practicable. Each company, moreover, is required to eliminate one daily round-trip run on each route.

General Order No. 11 prohibits the operation of more than one round-trip schedule a day over any route where experience shows that the average load in both directions will be less than 40 per cent of the seating capacity in any month.

Round-trip schedules operated primarily for the purpose of transporting workers to and from their jobs are not subject to the regulations, and an exception also is made for buses serving military and naval establishments.

Operators are required to keep records of passenger miles and seat miles and report to the ODT any round-trip schedule which fails to meet these requirements. The order requires that the average load for the entire journey be used as a basis for determining the degree of efficiency of the operation. A bus might start out fully loaded, the ODT explained, and still fail to meet the 40 per cent average load requirement when it had completed its round trip.

Intercity bus service, as defined by the order, may not be operated after July 1 "for the primary purpose of supplying transportation to or from a golf course, athletic field, race track, theater, dancing pavilion, or other place conducted primarily for the purpose of amusement or entertainment."

Express service was ordered discontinued, the ODT said, to release buses for needed local service. The order further provides that no bus route may be extended after July 1 without special permission of the ODT. Operators of competing bus lines are required to make joint plans for maximum utilization of equipment through pooling of services, staggering of schedules, exchange of operating rights or other methods. These plans, or statements giving the reasons why such plans have not been agreed upon, must be submitted to the ODT by July 30.

More Field Offices for ODT's Motor Transport Division

Five additional field offices have been established by the Office of Defense Transportation's Division of Motor Transport, bringing to 43 the total number now in operation. The offices are at Billings, Mont., Milwaukee, Wis., Oklahoma City, Okla., Salt Lake City, Utah, and Wichita, Kans.

War Department Consultants

J. J. Pelley, president of the Association of American Railroads, William C. Bower, vice-president of the New York Central, Lester N. Selig, president of the General American Transportation Corporation, and William Lyman Campbell, vice-president of the American Machine Defense Corporation, have been named as field consultants on warehousing and transportation of a new advisory board to the resources division of the Army Quartermaster General.

Oil Loadings At 664,230 Barrels

Figure for week of May 30 is six per cent below that of the preceding week

Rail movement of oil to the east coast from the west averaged 664,230 barrels daily during the week ended May 30, according to an announcement by Petroleum Co-ordinator Harold L. Ickes.

This is at a rate of six per cent below that for the preceding week, when car loadings averaged 706,800 barrels a day. The decline, Mr. Ickes said, was due in large part to the fact that most of the 2,265 additional cars pressed into service in the week ended May 23 had not yet had time to return to the west for reloading. Floods in northeastern Pennsylvania also contributed somewhat to the drop in movement, he added.

Oil shipments from California to Oregon and Washington also dropped off—from 16,296 barrels daily in the week of May 23, to 8,679 barrels daily. The decrease in movement, declared Mr. Ickes, reflects the improved stock position of the two northwestern states.

In handling the movement the 27 oil companies reported that they loaded 22,141 cars. Including cars that were on the way back west for reloading, it is estimated that the east coast service was employing 53,400 cars, taken largely from other sections of the country.

Also this week Mr. Ickes urged oil suppliers to increase further the movement of tank cars in the east coast service by obtaining their stocks from available supplies nearest to the point of use.

An amendment to a formal recommendation calls upon the suppliers who import petroleum products into District 1—the east coast states—to fill their requirements by shipping the oil or products "from that point where there is available a supply . . . which involves the shortest railroad haul."

The Congressional Record of June 8 contains a statement by Senator Maloney, Democrat of Connecticut and Chairman of a Special Committee which last Fall investigated the oil shortage, in which he discusses that subject in considerable detail. Also included in the Congressional Record were three memoranda on the subject from Mr. Ickes, Joseph B. Eastman, director of the Office of Defense Transportation, and Leon Henderson, administrator of the Office of Price Administration.

Mr. Eastman pointed out that the necessity exists for getting the greatest use out of a limited tank car supply and that in the case of New England, this can best be

done by train lot movements run solid from the point of origin to a single terminal at which the cars can be unloaded and started back empty, also in a solid block, within 24 hours. The oil then, according to Mr. Eastman, would be distributed from these central terminals in tank trucks. He also told Mr. Maloney that the movement of oil in tank cars "cannot be depended upon as a satisfactory agency of supply for any extended period of time, and will not meet all the needs even for a short period of time."

Meanwhile, at his press conference on June 5 President Roosevelt was asked about the refusal of the House last week to approve a bill providing for a pipeline and barge canal across Florida. He replied that the bill had called for a pipeline and barge canal, while he thought he had not recommended the latter.

Appointments to WPB's Priorities Staff

W. G. W. Glos has been appointed head priority specialist for the industry branches in the Division of Industry Operations, War Production Board. Walter C. Armstrong will succeed him as head priority specialist for the Production Division.

Carriers Answer WPB's Scrap Call

Indications that the nation's railroads are heeding the War Production Board's recent call for scrap steel are shown by abandonment applications filed with the Interstate Commerce Commission during the first five months of this year as compared with the same period of last year.

For the first five months of this year the railroads filed 75 applications for authority to abandon a total of 1,055.3 miles of track as compared respectively with 45 applications and a total of 738.9 miles, or an increase of over 40 per cent over the same period last year.

The fact that the carriers are seeking authority to abandon more than 40 per cent more mileage during the first five months of this year as compared with a like period last year is considered quite remarkable in view of the greatly-increased amount of traffic which they are hauling because of the war activity.

Also, since the United States Supreme Court's recent decision in the Pacific Electric case where it was held that the commission has the power to impose labor-protection provisions in abandonment cases, an analysis of the applications shows that in almost every case of any importance the Railway Labor Executives' Association is listed as opposing the application unless proper provisions are inserted in the certificate for the protection of displaced workers.

In addition to the aforementioned total for this year's first five months which is an increase of 316.4 miles of abandonments sought as compared with the same period of last year, there is evidence to support the theory that the upward trend will continue for some time to come. This is shown by the fact that so far this month the Atchison, Topeka & Santa Fe has asked the commission for authority to abandon five branch lines in Kansas and Oklahoma, totaling 193.3 miles and the Union Pacific is seeking authority to abandon its 70-mile Shaniko branch extending from Biggs, Oreg., to Shaniko.

A breakdown of the number of abandonment applications and the total mileage for each of the first five months of this year as compared with the same period of last year is shown in the following table:

Abandonment Applications for the First Five Months of 1942 as Compared with the Same Period in 1941

Month	Number of Applications (1941)	Number of Applications (1942)	Mileage (1941)	Mileage (1942)
January	10	8	180.3	203.5
February	9	9	111.0	130.2
March	7	19	82.4	243.7
April	9	14	174.1	236.6
May	10	25	191.1	241.3
Total	45	75	738.9	1,055.3

Texas-to-Midwest Pipe Line Approved by WPB

The War Production Board on June 10 approved immediate construction of a 550-mile pipe line from Longview, Tex., to Salem, Ill. From the Salem terminus, oil will be transported to the Eastern shortage area by tank cars, barges, and Great Lakes carriers.

The favorable action, following upon WPB refusals to grant priorities for steel for a pipe line from Texas to the New York-Philadelphia area, was announced by WPB Chairman Donald M. Nelson, who said it was taken "after considering the changed situation with respect to oil tankers and military requirements, and after receiving assurances that prompt construction of the line will not interfere with the delivery of steel for motor equipment orders for the War department or for the Maritime Commission's shipbuilding program."

Trucks Released by WPB

During the week ended June 6 the War Production Board released 1,975 trucks, 215 trailers and 161 miscellaneous vehicles for civilian use and to holders of government exemption permits. Civilian users got 345 light, 796 medium, and 125 heavy trucks, 197 trailers, and 53 miscellaneous vehicles.

ODT Role in Gasoline Rationing

Regulations of the Office of Defense Transportation will control the amount of rations to be issued trucks, buses and government-operated cars under the new coupon plan for gasoline rationing which the Office of Price Administration will put into effect on the East Coast next month.

The rationing plan, itself, will not restrict operations of these vehicles, a June 7 statement from OPA said. But they will not receive more gasoline than will be required for carrying out the operations permitted by ODT.

Trucks, buses and certain passenger car types operated for commercial or governmental purposes, will apply for "S" coupon books. These applications will be filed with a local rationing board, or, if the vehicle is operated under an Interstate Commerce Commission license, at a local office of the ODT. The applications will require specific information on mileage requirements for a period of three months. All claims for mileage set out in this application must be strictly in accordance with the ODT regulations. OPA pointed out that all users of gasoline in the "S" category are required by ODT to maintain adequate records of mileage and gallonage.

Each "S" book will contain enough coupons for three months. The applicant may apply for another "S" book at any time after the three months' period is over. But during that period he cannot get more rations "except in case of unforeseen emergency."

Roosevelt Asks $7,216,515 for ODT

President Roosevelt has sent to Congress an estimate of appropriation for the Office of Defense Transportation for the fiscal year 1943, amounting to $7,216,515.

At the same time the President asked Congress to appropriate $5,000,000 for the construction of flight strips by the Public Roads Administration.

Iron Chandelier Added to Scrap

A 4,500-lb. wrought iron chandelier, which has hung in the second floor waiting room of the Union Station at St. Louis since that building was opened in 1894, has been taken down and added to the Terminal Railroad Association's scrap pile and eventually will find its way to some war plant. The Terminal is collecting other scrap at the rate of 25 tons per day.

Committee on Cargo Planes

Donald M. Nelson, chairman of the War Production Board, has appointed a special committee to study the possibilities of using cargo planes for the transportation of war materials. The committee will make "an objective study of the situation to see what the facts are as they relate to production problems, including the problems of raw materials for possible cargo plane construction."

I. C. C. Emergency Motor Carrier Order

The Interstate Commerce Commission on June 8 issued Emergency Order No. M-1, authorizing, directing motor common carriers to disregard routings specified in bills of lading and tariff routing provisions and to accept and transport traffic diverted to them, where such actions are necessary to further the purposes and comply with the requirements of the Office of Defense Transportation's General Order No. 3.

The latter, which will require common-carrier trucks to be loaded to capacity on outgoing trips and to 75 per cent of capacity on return trips, also provides that truckers must divert lighter loads to other carriers and accept freight diverted to them. Furthermore, it prescribes rules for determining applicable rates and divisions of revenue on such diverted traffic and directs motor carriers to immediately publish, effective on one day's notice, ap-

propriate tariff provisions stating how the applicable rates are to be determined.

In the latter connection a notice from I. C. C. Secretary W. P. Bartel, which accompanied the commission's order, had this to say: "The commission realizes that because of its wide application, rates prescribed and divisions suggested in the order may not be entirely fair under all conditions that may exist, but confidence is felt that the carriers will co-operate among themselves in effecting a fair settlement of all problems that may arise."

ODT Advisory Committees

Coastwise and Intercoastal Carriers' advisory committees have been appointed at Norfolk, Va., and Portland, Ore., by Director Eastman of the Office of Defense Transportation. L. G. Hogshire of the Norfolk, Baltimore & Carolina Line is chairman of the Norfolk committee, while the Portland group is headed by L. R. Gault of the Western Transportation Company.

The committees will cooperate with Director Holzborn of ODT's Division of Coastwise and Intercoastal Transport, advising him on port and shipping problems.

Carriers Guarantee Seniority Rights During War

All Class I railroads with the exception of the Atchison, Topeka & Santa Fe, have completed an agreement with the labor organizations representing the employees which provides for the protection of their seniority rights during the time that they are in the armed forces. Negotiations looking toward such an agreement have been under way for over a year. Significant parts of the agreement follow:

"Any employee of this company who has established a seniority date and who shall be ordered or inducted into the land or naval forces, or who has enlisted after the declaration of an emergency by the President on September 8, 1939, shall, upon completion of such service, be restored to such position with this company (including rights to promotion) to which his accumulated seniority entitles him, the same as if he had remained in railroad service.

"The general purpose hereof is to provide that all such persons who return to the service of this company shall be considered as having been on leave of absence or furlough, shall be restored to service without loss of seniority, and shall be entitled to participate in the insurance or other benefits offered by this company.

"Such employees, while so engaged in military or naval service, will be granted free transportation to the same extent as though they were engaged in the active service of this company."

Presumably, the signing of this agreement should obviate any need for enactment of the pending legislation on this subject.

ODT Revises Port Traffic Plan

Revised instructions to shippers governing the movement of goods into United States ports for export have been issued by the Office of Defense Transportation. The June 9 announcement in that connection said that the only major change in the regulations which became effective June 1 is that stipulating that shippers are no longer required to apply directly to the War Shipping Administration or the British Ministry of War Transport for permission to move export goods through the ports. In other words the applications so far as shippers are concerned will be handled entirely by the Association of American Railroads' manager of port traffic where rail shipments are involved, and by field offices of ODT's Division of Motor Transport where motor truck shipments are involved.

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OEM Photo by Palmer

A Junked Railway Crane in an Eastern Shipyard (Formerly a Carbuilding Plant) Being Restored to Help Win the War

Weiner Discusses Fuel Transportation Situation

Describing in a June 8 statement how the war economy "must reach into every home in the nation," Joseph L. Weiner, deputy director of the War Production Board's Division of Civilian Supply, asserted that, while all are familiar with the gasoline shortage, "most people do not recognize that there is a shortage of fuel oil, largely caused by transportation difficulties." Mr. Weiner then observed that "we have just so much transportation equipment and no more," adding that everyone who can possibly do so ought to convert from oil-burning heating apparatus to coal-burning appliances, while coal users should stock up now "in order to take some of the strain off our transportation facilities this fall."

New WPB Materials Controls

What a War Production Board statement called "a pattern for flow of materials to the nation's wartime industry" was announced on June 10 by William L. Batt, chairman of WPB's Requirements Committee and J. S. Knowlson, director of its Division of Industry Operations. The new controls are embodied in Priorities Regulation No. 11, which provides for establishing definite quantitative limits to the acquisition of metals and other scarce materials by any person or company using more than $5,000 worth of metal in a calendar quarter.

Companies engaged in transportation are among those excepted; or, as the Batt-Knowlson statement put it, such companies "will be controlled by existing procedures for the present."

Disputes Bring ODT Statement of Policy on Conservation Methods

Because employer-employee disputes over methods of applying Office of Defense Transportation truck and tire conservation orders "are hampering the prompt and effective application of these orders," ODT has issued a five-point statement of policy "to be used by industry and labor as a guide in developing programs." ODT deemed it necessary to emphasize that its regulations "are intended solely to save vitally needed rubber and rolling stock"; and that it is not endorsing any particular plan for compliance.

Its statement of policy was issued in order "to hold labor controversies to a minimum, to insure fair treatment of employees, and to achieve necessary conservation goals without delay." The statement suggests that the following principles be applied in arriving at a settlement: (1) All conservation plans must comply fully with the terms of the applicable order; (2) as between feasible alternative plans, either of which will result in compliance, that plan should be adopted which will result in the least burden on employees; (3) savings directly resulting from the application of an order should be used to afford employees

reasonable protection against losses of earnings and jobs; (4) savings remaining after such provision has been made for employees should be passed on to consumers in the form of lower prices; (5) conservation plans instituted to comply with ODT orders should be limited to the duration of the emergency.

ODT Asks Traffic Forecasts from Shippers

Inaugurating a plan "to provide monthly an accurate forecast of the nation's freight equipment requirements." Director Eastman of the Office of Defense Transportation has asked a "large number" of shippers to submit, beginning June 15, an advance monthly estimate of traffic movements from their plants.

The information, to be provided on a special form, will include the commodity to be shipped, the number and kind of cars needed, their destination and, if highway transportation is to be used, the number of trucks contemplated. The shippers addressed were chosen because their traffic "from the standpoint of commodity content origin and destination territory, and the gateways into which it will flow, is a typical sample of the nation's traffic as a whole."

ODT Establishes 17 Truck-Allocation Appeal Boards

Establishment of 17 local appeal boards to pass on applications for permission to purchase new trucks has been announced by the Office of Defense Transportation. The boards will be located in Boston, Mass., Philadelphia, Pa., Atlanta, Ga., Charlotte, N. C., Chicago, Columbus, Ohio, Minneapolis Minn., Nashville, Tenn., New York, Kansas City, Kans., Little Rock, Ark., Fort Worth, Tex., Salt Lake City, Utah, Denver, Colo., Portland, Ore., San Francisco, Calif., and Los Angeles.

They will take over the duties of the special Washington Appeal Board which held weekly sessions between April 7 and May 21 and considered 1583 appeals from decisions by local allocation officers of ODT. The latter, said the ODT announcement, were upheld in more than 80 per cent of the cases, the majority of the appeals being rejected on the grounds that the applications had been based on "business as usual" reasons.

Enochs Named to Manpower Policy Committee

A management-labor policy committee of the War Manpower Commission, to be composed of seven national labor leaders and seven leaders of war production and transportation management, has been set up by Commission Chairman Paul V. McNutt.

Representing railroad management is H. A. Enochs, chief of personnel of the Pennsylvania. In addition to Mr. Enochs, the committee will also include a representative of railroad labor, as well as three Congress of Industrial Organization (CIO) and three American Federation of Labor officials, plus six industrial executives.

The committee was created by Order No. 1 issued by Mr. McNutt and authorizes it "to consider and recommend to the chairman matters of major policy concerning the activities and responsibilities of the Commission." The order also directs the committee to make studies on its own motion, and to initiate the formulation of manpower policies, in addition to considering policies referred to it by the chairman.

Only One Car for ODT

Joseph B. Eastman, whose duty it is under Presidential edict to look after some 30,000,000 automobiles in the country, has only one official car which is furnished the Office of Defense Transportation by the Office for Emergency Management.

Not only does Mr. Eastman and his staff, which now numbers in the hundreds, have the use of only one government automobile, but the situation is made even more complicated by the fact that ODT secretaries find it difficult sometimes to locate the chauffeur.

ODT's McCarthy Promotes Vacation-at-Home Idea

While no restrictions on individual railroad or bus travel now exist, the Office of Defense Transportation feels that planning a vacation close to home this year will not only relieve public transportation facilities, but will be a patriotic gesture. The possibilities of such a holiday are discussed in an article by Henry F. McCarthy, director of ODT's Division of Traffic Movement, appearing in the current issue of "Public Safety" magazine.

"There are at this time no travel restrictions," Mr. McCarthy writes. "And should restrictions become necessary, vacationists and other pleasure travelers will be given as much advance warning as possible so that they may make necessary changes in their plans. The public carriers will do their best to accommodate all comers, but the vacationist must not lose patience if he finds trains too crowded and Pullman accommodations scarce. He must not complain against late schedules or other inconveniences. He must realize that the railroads and buses have risen nobly to the war emergency, and both are doing all they can to meet the added burden that restriction of private automobile use has placed upon them."

The vacation-at-home idea is stressed by Mr. McCarthy who says: "Joseph B. Eastman, director of the Office of Defense Transportation, concurs with a number of high government executives in the belief that a vacation planned at home this year is really a highly patriotic vacation."

28300 and 28310 Hearings to Be Resumed September 22

The Interstate Commerce Commission has assigned the Nos. 28300 and 28310 investigations of the class rate structure and Consolidated Freight Classification for further hearing before Division 2 at the Hotel Claypool, Indianapolis, Ind., on September 22. The announcement of June 5 said that the notice "is given considerably in advance of the hearing date to enable the parties to arrange their presentations accordingly."

No hearings have been held in these proceedings since July, 1941, when members of the commission's staff appeared at St. Louis, Mo., sessions to present statistical exhibits, including the freight service cost studies prepared by Dr. Ford K. Edwards. The order of procedure at the Indianapolis sessions, according to the commission's notice, will be: Cross-examination (or further cross-examination) of Dr. Edwards; testimony by respondents; testimony by shippers and public groups; and testimony in the way of rebuttal. It is the desire of the commission that parties should com-

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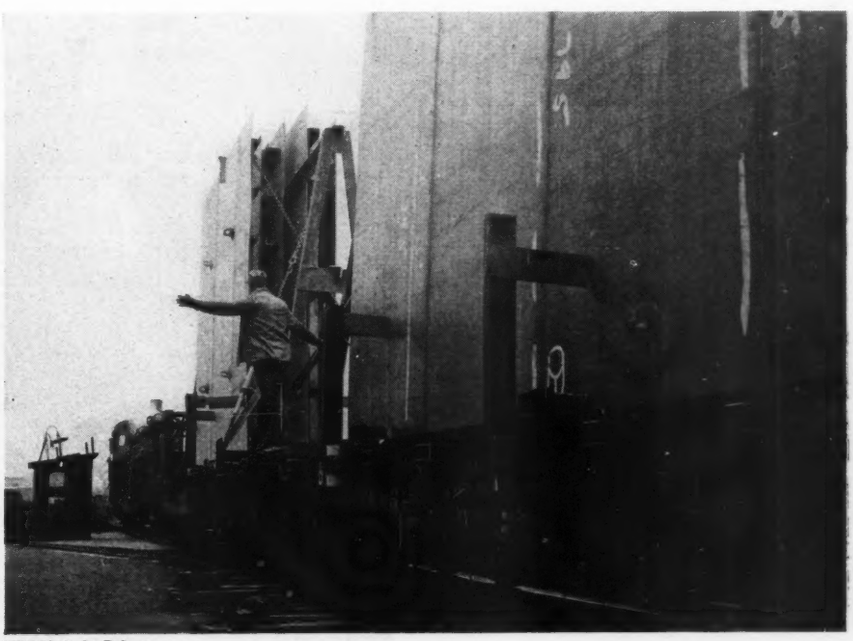

OEM Photo by Palmer

Railroad Transportation Is an Integral Part of Ship Construction—Pre-fabricated Sections en Route from Assembly Plant to Ship Ways

plete their presentations and cross-examination; and "the commission expects that they shall do so, in order that the record of testimony may be completed."

Last fall, as noted in the *Railway Age* of October 18, 1941, page 637, the commission denied petitions filed by railroads and others asking for suspension of further activities and indefinite postponement of these investigations. The railroad petition had contended that there is no freight-rate emergency, but there is a military emergency, which "should have the right-of-way over obsolete statistics, stale records, and irrelevant testimony which these proceedings will produce."

At that time, American Trucking Associations, Inc., opposed the railroad petition and asked that the proceedings be continued to a final disposition. Last week, however, A. T. A. and 15 motor freight bureaus throughout the country came forward with another petition, asking the commission to postpone further proceedings in the investigations for the duration of the war. At the same time the petition made it clear that the truckers were not asking that the investigations be discontinued.

AAR Names Manpower Committee to Work With ODT

A committee of railroad executives has been named by the Association of American Railroads to work with the Office of Defense Transportation's Division of Transport Personnel on "methods of speeding up the process of recruiting and training new employees, and of improving railroad personnel policies.

The committee is headed by Dr. J. H. Parmelee, director of the AAR's Bureau of Railway Economics, and other members are as follows: H. A. DeButts, operating vice-president of the Southern; H. A. Enochs, chief of personnel, Pennsylvania; W. H. Flynn, general superintendent of motive power and rolling stock, New York Central; John P. Morris, general mechanical assistant, Atchison, Topeka & Stant Fe; J. B. Parrish, assistant vice-president, Chesapeake & Ohio; and C. R. Young, manager of personnel, Illinois Central.

The ODT announcement said that Director Eastman will ask management and labor groups in all branches of transportation coming under his direction to set up similar committees "as the need for them arises."

ODT Bus Orders Now Require Filings with I. C. C.

Adopting the suggestion of the Interstate Commerce Commission, the Office of Defense Transportation has amended its recent order coordinating New York-Washington bus operations to require bus lines involved to file with the commission notices describing operations suspended and tariff supplements setting forth any resultant changes in fares, charges, operations, rules, regulations and practices.

As noted in the *Railway Age* of June 6, page 1121, Acting Chairman Aitchison of the commission recommended that ODT take such action when he assured Director Eastman that the commission would view interruptions of motor carrier services pursuant to ODT orders as interruptions beyond the control of the carriers affected. The ODT order on the New York-Washington bus situation (Special Order ODT B-1) was reported in the *Railway Age* of May 30, page 1094, the bus lines involved being Pennsylvania Greyhound Lines, affiliate of the Pennsylvania, Safeway Trails, Inc., Eastern Trails, Inc., and the Quaker City Bus Company.

Carriers and Industry to Be Quizzed on Coal Supply

A plant-by-plant study to ascertain what steps industries holding war contracts and the railroads, are taking to protect their fuel supply has been launched in conjunction with the War Production Board, according to an announcement by the Office of the Solid Fuels Coordinator for War.

Donald M. Nelson, chairman of the WPB, has asked the industries holding primary war contracts to report to the Solid Fuels Office immediately on the amount of coal on hand, the possibility of storing an additional amount, and other information concerning their fuel supply. Figures showing the consumption of fuel oils for heat and power in the same plants during 1941 also are being sought in the survey, the announcement stated.

"Transportation difficulties," Mr. Nelson said, "will increase in future months, but the railroads and other transportation facilities still have some surplus carrying capacity which must be utilized now in order to avoid serious transportation dislocations next fall and winter."

Meanwhile, a sharp drop in the all-rail shipments of coal into the New England area during the week ended May 30, "reflecting the effects of storms and the Memorial Day holiday," was reported on June 8 by Solid Fuels Co-ordinator Harold L. Ickes.

On the basis of figures furnished by the Association of American Railroads, Mr. Ickes reported that all-rail shipments to New England declined an average of 289 cars a day during the week ended May 30 as compared to the week ended May 23. A total of 5,951 cars of bituminous and anthracite coal or approximately 327,305 tons went through railroad gateways into the area in the week, he pointed out.

President Names Wartime Railway Labor Panel

Dr. William M. Leiserson, member of the National Labor Relations Board and former member of the National Mediation Board, has been appointed by President Roosevelt to the chairmanship of the National Railway Labor Panel, which the President's May 21 executive order created to provide wartime procedures whereby labor-management disputes in the railroad industry may be submitted to emergency fact-finding boards without the necessity for the taking of a strike vote among labor organizations involved.

The other eight members of the panel appointed by the President are: William H. Spencer, dean, University of Chicago; Walter P. Stacy, chief justice of the Supreme Court of North Carolina; Wiley Rutledge, associate justice of the United States Court of Appeals, District of Columbia; Dr. Edwin E. Witte of the University of Wisconsin; Walter T. Fisher, Chicago attorney; John A. Lapp of Chicago; John A. Fitch of the New York School of Social Work; and Norman Ware, member of the Connecticut State Board of Mediation and Arbitration. Judge Stacy was chairman of the emergency board which recommended against the railroads' 15 per cent wage cut proposal of 1938, while Dean Spencer and Mr. Lapp have served as referees in National Railroad Adjustment Board cases.

As noted in the *Railway Age* of May 30, page 1090, the executive order provides that when a wartime dispute reaches the stage where under normal procedures a strike vote would be taken, the representatives of the employees may notify the chairman of the panel of their desire to

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OEM Photo by Palmer

A Junked Locomotive Being Brought Back to Useful Life at an Eastern Shipyard

avoid the taking of such a vote and the setting of a strike date. If, in the judgment of the chairman, the dispute is such "that if unadjusted, even in the absence of a strike vote, it may interfere with the prosecution of the war, he may thereupon select three members of the panel to serve as an emergency board to investigate such dispute and to report thereon to the President."

It was stated at Dr. Leiserson's office that he would not leave the National Labor Relations Board, but would assume the chairmanship of the panel in addition to his present duties.

New Priorities for Air Travel

Complete revision of the priorities machinery for the nation's scheduled commercial air lines "to assure speedy transportation of passengers and cargo vitally needed in the war effort," and to provide for regional administration was announced on June 10 by the War Department. The new policy, which replaces that established late last winter, was developed by the new Air Division of the Transportation Service, Services of Supply.

It decentralizes the administration of air line priorities, which, in virtually all instances in the past, had to be cleared through Washington, D. C. Establishment of priorities now will be done through the Air Priority Branch, Air Division, Office of the Chief of Transportation Service, and 14 regional Air Priority Control offices to be established August 1 throughout the country.

Under the program, reservations for seat or cargo space, after priorities are granted, will be made directly with the air carriers through their regular established agencies, just as in the past. The new program establishes new classifications on persons and cargo entitled to priorities. In the past, military personnel has been given precedence over civilians in classification. Now, civilians performing important war tasks have an equal footing, it was said. The new classifications are:

1. White House personnel or others for whom air transportation is directed for accomplishment of a particular mission by the President, the Secretary of War, or the Secretary of the Navy.

2. Airplane pilots of the Army, Navy and Marine Corps Ferrying Commands whose orders specifically direct travel by military or the fastest available commercial aircraft.

3. Army, Navy, Marine Corps, Coast Guard and Allied government military personnel or others whose air travel specifically is ordered and civilians whose air travel is essential to expedite war production, construction or other similar activities.

4. Army and Navy equipment, ammunition, supplies and materials essential to the war effort when specifically ordered moved by priority air transportation by the War Department.

To avoid unnecessary disruption of commercial travel, priorities will be issued only for urgent passenger and cargo transportation, major inspection trips by the highest officials in the war effort, and if a mission cannot be accomplished by train travel. An individual of the armed forces or a civilian engaged in the war effort is not entitled to priorities unless his mission justifies it, it was pointed out. Similarly, special approval will be required for air priority on trips requiring less than two hours and if the destination can be reached by rail within six hours of the desired departure time from the originating point. The new priority classifications become effective June 20.

Priorities and Prices

Following are references to orders of interest to railroads issued by the War Production Board and the Office of Price Administration since May 26.

Crossing signals—Limitation Order L-29 was amended June 2 to exempt all mechanical and electrical railroad, grade crossing and highway signals. Exemptions also include incandescent and fluorescent lamps and tubes, neon and all other kinds of tubing used as a source of light for this purpose.

Material classification—Priorities Regulation No. 10, issued June 2, prescribes a classification system which must be used on all orders placed by manufacturers, fabricators and primary producers after June 30, and on all orders which call for deliveries after July 31, regardless of when the orders are placed. Purchases by retailers and purchases by distributors for resale are exempt from the requirements which are embodied in Priorities Regulation No. 10. Numbers from 1.00 to 23.00 have been assigned to all major classes of military, industrial and civilian uses. These broad end use classifications are subdivided as necessary by the use of numbers after the decimal point. For example, class 11.00, communications, has under it subclass 11.10, telephone; 11.20, radio; 11.30, telegraph. The order of the numbers bears no relation to the relative importance of the use. In addition, letters known as purchasers' symbols are assigned to broad classes of purchasers. Both the allocation and purchasers' symbol will be placed on each contract or purchase order. The object of the information is to make possible a more accurate and effective allocation of materials to war requirements and to the maintenance of essential civilian industries such as transportation, electric power, health supplies and communications.

New construction—WPB and the War and Navy Departments have established broad principles governing all war-time construction which will bring such building under more rigid conservation control. The program means that no new plants will be built unless they are absolutely essential and can meet seven newly established requirements. Before any project will be approved for construction, it must be shown that it is essential for the war effort; that postponement of construction would be detrimental to the war effort; that it is not practical to rent or convert existing facilities for the purpose; that construction will not result in duplication or unnecessary expansion of existing plants or facilities now under construction or about to be constructed; that all possible economies have been made in the project, resulting in deletion of all non-essential items and parts; that the projects have been designed of the simplest type, just sufficient to meet the minimum requirements, and that sufficient labor, public utilities, transportation, raw materials, equipment and the like are available to build and operate the plant and that the manufactured product can be used at once or stored until needed.

Office machines—Order L-54-c, issued June 2, revokes order L-54-b and amendments governing the distribution of office machinery and supersedes M-126 which halted the production of many types of familiar office equipment, including cash registers, change making, coin handling, check handling and envelope handling machinery and autographic registers. The new order is designed to regulate production until the end of the year so that a sufficient stockpile of essential types of machinery will be built up to take care of all requirements until June 30, 1944. Production quotas fixed for various types of machinery are based on a survey of estimated minimum requirements of government and essential civilian users. Manufacturers and dealers are prohibited from filling back orders for new office machinery except to the Army and Navy, but may apply to WPB for authority to deliver machinery built to special specifications for a customer, which was assembled or in the process of fabrication and assembly as of June 1. Provision is made for permitting unrestricted deliveries of machines not suitable to the war program, provided production is stopped within 60 days.

Scrap sales—A threatened bottleneck in scrap metal dealers' yards in some localities may force the government to request steel mills to buy scrap metal direct and prepare it for the furnaces in their own yards, it was announced on June 4. Salvaged metal piles are mounting in dealers' yards. In some localities, scrap dealers have been lax in handling the accelerated load. The increased volume of scrap metal now being offered to dealers, according to the announcement, has prompted some dealers to lower scrap prices to the prejudice of the owners and collectors, who should not be asked to take a loss in return for their co-operation with the salvage program. The steel mills that buy direct will be prepared to purchase scrap in any amount at ceiling prices, less the cost of freight and handling. Direct buying by steel mills, it was stated, would also make it possible for them to build greater reserves, thus eliminating shutdowns that may be caused by bottlenecks or price cutting in particular areas.

Warehouses—800 large steel warehouses will receive questionnaires and investigators to establish the practices of warehouses and the degree of their conformity with priorities orders, it was announced on June 5. Approximately 15 per cent of all iron and steel production and large quantities of railroad supplies are distributed through warehouses.

Prices

Gray iron—A letter, issued May 27 to sellers of gray iron castings, announced that a maximum price regulation for gray iron castings will be issued in the near future under which maximum prices for gray iron castings will be set at a level of prices prevailing earlier than provided for in the general maximum price regulation, and that any price advances made under the provisions of the general maximum price regulation will undoubtedly have to be withdrawn in the near future, and that the proposed regulation will probably cut across existing contracts.

Hardwood—Creation of a Central hardwood lumber area with maximum prices for lumber shipped from mills in the area was created by Maximum Price Regulation No. 155, which becomes effective June 1. The area includes Illinois, Indiana and Ohio and all of Kentucky and Tennessee not included in the Appalachian hardwoods area excepting a portion of western Tennessee which remains in the Southern hardwoods area. The portion of Kentucky and Tennessee included in the Central area was formerly a part of the Southern area. The Appalachian hardwoods area was placed under individualized price control through Maximum Price Regulation No. 146, issued May 19, and the Southern hardwoods have been under individualized price control since February 20 through Revised Price Schedule No. 97. The new Central hardwoods area recognizes the difference between the Appalachian and Southern textures through an internal division into North Central and Southern Central areas, for which separate prices are provided. The maximum prices for the North Central area are lower than those in the Appalachian zone, but are higher than those in the South Central area and Southern hardwood zone. The South Central prices, though lower than the North Central quotations, are higher than those in the Southern price schedule.

Malleable castings—Producers of malleable iron castings and high alloy steel castings were given price formulas on June 2 for establishing maximum prices for castings that cannot be priced under Section 1499.2 of the General Maximum Price Regulation. The formulas are contained in Orders No. 4 and 5 for malleable iron castings and high alloy steel castings, and are the same as one issued in May for gray iron castings. The maximum price for each casting shall be a net price (after adjustment for all customary extra charges, discounts or other allowances) not in excess of that at which such castings would have been sold during March, 1942, under the pricing formula or method of calculating price used in March, 1942, employing the same cost factors (wage rates, prices of materials and overhead) and profit margins which were in effect in March, 1942, even though the costs or profit margins may have increased since that date.

Posts and piling—Poles, posts, piling, split stock, mine timbers and similar semi-finished timber products were brought under the General Maximum Price Regulation on June 3. For each individual seller, the maximum prices for any of these products may be no higher than the highest price charged for delivery of the product in March, 1942.

GENERAL NEWS

Bus Business Tops Rail Coach Traffic

Class I motor carriers had more passengers for first time in February

Reviewing data on bus operations in the June issue of its Monthly Comment on Transportation Statistics, the Interstate Commerce Commission's Bureau of Statistics calls attention to the fact that in February the number of passenger carried by the 148 Class I bus lines exceeded the number of coach passengers carried by Class I railroads. The bus lines reported 19,847,527 passengers carried during that month as compared with the 19,598,772 carried in railroad coaches.

"Although motor carrier travel has been gaining on rail coach travel for some time, this marks the first month when it exceeded the latter," the Bureau observed. It went on to point out, however, that bus passenger revenue for February "was only $13,728,953 in comparison with rail coach revenue of $25,140,220," the divergence being attributable "to differences in the rate level and the average length of haul per passenger."

Commenting on the revenue and traffic of railroads, the Bureau noted that the April gross of the Class I roads was 52.7 per cent above April, 1941. It attributed this increase to three factors: The rapid growth of war traffic; the increase in freight rates and fares; and "the depressing effect on April revenues last year of coal mine shut downs." It was calculated that, except for the latter factor, the increase would have been about 39 per cent.

With respect to carloadings, the Bureau suggested that a better comparison with last year could be had after the exclusion of l. c. l. loadings, which have recently involved much heavier loads per car. Thus with the l. c. l. loadings eliminated, the loadings for the first 21 weeks of this year are shown to have been 14.5 per cent above the comparable 1941 period, whereas the total loadings were up only 8.6 per cent.

The Bureau's comment on air carrier statistics again called attention to the high passenger load factors enjoyed by the air lines. In March, the routes showing the highest load factors were: Seattle-San Diego, 86.8 per cent; Dallas-Los Angeles, 82.7 per cent; Boston-New York, 79 per cent; New York-San Francisco, 78.5 per cent; and New York-Miami, 77.3 per cent. Mention is made of the recent War Department order putting the air lines on a war footing, as a result of which "the striking traffic gains experienced during the first few months of 1942 cannot be expected to be continued for the remainder of the year." Planes in commercial service were reduced during May from 324 to 165.

Discussing railroad operating expenses, the Bureau cited the 68.3 operating ratio for the first four months of this year. "Not since 1916," it added, "has the operating ratio for the first four months of the year dropped below 70." April's net railway operating income of $102,034,439 was 95.9 per cent above April, 1941, the large percentage increase being attributed partly to the fact that coal mining operations were suspended during April, 1941, and partly to the higher level of rates and fares. Nevertheless the April n. o. i. came after deduction of tax accruals of $88,592,330, an increase of 139.2 per cent over the comparable April, 1941, figure; and after depreciation and amortization charges of $27,037,616, an increase of 51.1 per cent.

Proposed Unemployment Insurance Act Amendment

Representative Chapman, Democrat, of Kentucky, has introduced H.R. 7212 to amend those provisions of the Railroad Unemployment Insurance Act which relate to the transfer of funds from state unemployment compensation accounts to the Railroad Unemployment Insurance Account.

CIO Grants Charter to Red Cap Union

The Congress of Industrial Organizations (CIO) has granted an international charter to the International Union, United Transport Service Employees of America, comprising red caps, Pullman service and dining car employees. The union has a membership of approximately 4,000.

Utah Railroads Ask ICC Intervention

Railroads serving Utah have asked the Interstate Commerce Commission to investigate the refusal of the Public Service Commission of Utah to permit the carriers to bring their intrastate rates into line with the recent increases allowed in the Ex Parte 148 rate increase case.

National Bearing Metals Awarded Navy "E" Burgee

The National Bearing Metals Corporation, St. Louis, Mo., on May 14 celebrated the awarding of the Navy "E" burgee to the company by the Navy Department for outstanding production of Navy ordnance. (In the article of the war production of the supply industry in the May 23 issue of the *Railway Age*, page 1023, the National Bearing Metals Corporation was inadvertently omitted from the list of companies in the railway supply field to which this award has been made.—Editor.)

Would O. K. South's All-Freight Rates

Examiner recommends I. C. C. find that the schedules are not unlawful

Railroads would be permitted to continue their all-commodity rates from Chicago, Mississippi and Ohio river crossings and Illinois Freight Association territory, including Indianapolis, Ind., to points in Southern territory, if the Interstate Commerce Commission adopts the recommended finding of Examiner L. Way's second proposed report after further hearing in No. 28323 and proceedings linked therewith.

No. 28323 is the proceeding instituted by the commission on its own motion to determine the lawfulness of all-commodity or all-freight railroad and motor carrier rates to the South. Other cases embraced in the report are Investigation and Suspension dockets Nos. 4315, 4644, 4662, 4672, and 4828. As the examiner points out, all of the matters involved in these dockets, except No. 4828, were the subject of a previous proposed report (see *Railway Age* of May 25, 1940, page 951). Before the commission acted upon that proposed report, the carriers filed new schedules changing the all-commodity rate set-up originally proposed. Those new schedules were suspended in No. 4828; but the suspension was vacated by Division 2's October 18, 1940 order which, however, continued the investigation, consolidating it with No. 28323.

The present all-commodity rates to all destinations, except from St. Louis, Mo., and certain Ohio river crossings to Memphis, Tenn., are on the basis of 75 and 40 per cent, respectively, of the first-class rates from and to the same points for minimums of 12,000 lb. and 30,000 lb. The minimums apply to each car used, and are not subject to any multiple car rule. The rates from St. Louis and certain Ohio river crossings to Memphis have been on a different basis, but the examiner noted the railroad's willingness to withdraw them; and he added that steps had been taken to cancel every all-commodity rate in the territory involved, except those based on 75 and 40 per cent of first class for minimums of 12,000 lb. and 30,000 lb. respectively.

The proposed report goes into various phases of the all-commodity rate situation, discussing their purpose to meet changed merchandising practices and recover traffic lost to trucks; their use by forwarders and large shippers like mail-order houses; and their effect upon the revenues of the railroads. When first established, Mr. Way said, the all-commodity rates were opposed by some railroads, "a few shippers and traffic bureaus," and motor carriers. After

a trial of more than five years on some roads and more than three on others, he went on, "the rates have proved satisfactory to all except the motor carriers, and the protests have been either withdrawn or not renewed at the last hearing. The only remaining protest comes from the motor carriers."

Figures set out in the report show how loadings and revenue per car from all-commodity freight are increasing. In the first nine months of 1941 the Illinois Central loaded 50,565 tons into 3,211 cars or an average of 15.74 tons per car, as compared with 38,276 tons loaded into 3,442 cars or an average of 11.12 tons per car during the first nine months of 1940. The revenue per car in the 1941 period was $225.40, as compared with $181.23 in 1940. Likewise in the first nine months of 1941 the Louisville & Nashville loaded 65,750 tons of all-commodity freight into 3,954 cars, the average per car being 16.62 tons and the revenue per car $211.30. The comparable figures for the same 1940 period are 54,283 tons loaded into 4,726 cars—tons per car, 11.49, revenue per car, $168.67. Meanwhile, the average load per l.c.l. car on the I. C. in the years 1935 to 1941 ranged from 3.06 to 3.73 tons.

In view of the foregoing and other evidence the examiner recommends that "the commission should find that the all-commodity rates under investigation are compensatory, and that they are not shown to be otherwise unlawful, and the investigation should be discontinued."

Bill Signed by President

President Roosevelt has signed S. 2305, a bill which would relieve disbursing and certifying officers of the United States government of responsibility for overpayments made for transportation furnished on government bills of lading or transportation requests when the overpayments are due to the use of improper transportation rates, classifications, or the failure to deduct the proper amount under land-grant laws or equalization and other agreements.

House Committee Working on Land Grant Compromise

The House of Representatives committee on interstate and foreign commerce is working on a revision of H.R. 6156, Chairman Lea's bill for repeal of remaining provisions of the land-grant-rate law, which was recommitted by the House on April 29. The work of revision is understood to be taking the form of an undertaking to work out a compromise which might meet the contention, made in the recommittal debate, that railroads should not become eligible for relief from land-grant rates unless they agreed to return to the government granted lands still in their possession.

A. C. F. Employees Are "Soldiers of Production"

Employees of the American Car & Foundry Company's tank plant, which has been producing light tanks on a mass production basis for well over two years, recently conceived the idea of reproducing a replica of the light tank in silver to be worn as a guild insignia, signifying "Soldiers of Production," and this accordingly was done. They decided also to collect one cent from each man in the plant so that four gold replicas might be struck off and presented to officers of the company, to whose foresight and co-operation was attributed the readiness with which the company was able almost overnight to turn from building railroad equipment to the production of light tanks. Those to be thus signalized by the employees are Charles J. Hardy, president; F. A. Stevenson, senior vice-president; G. C. Beishline, district manager; and B. C. Dietterick, assistant district manager.

The collection was sponsored by the local head of the Steel Workers Organizing Committee—and a pile of the familiar copper coins was the instantaneous result. Mr. Hardy will go personally to the tank plant to receive his "badge of production" from the men whose pride is that no disputes have taken them from their jobs and that not one moment has been lost by them in producing this vital equipment.

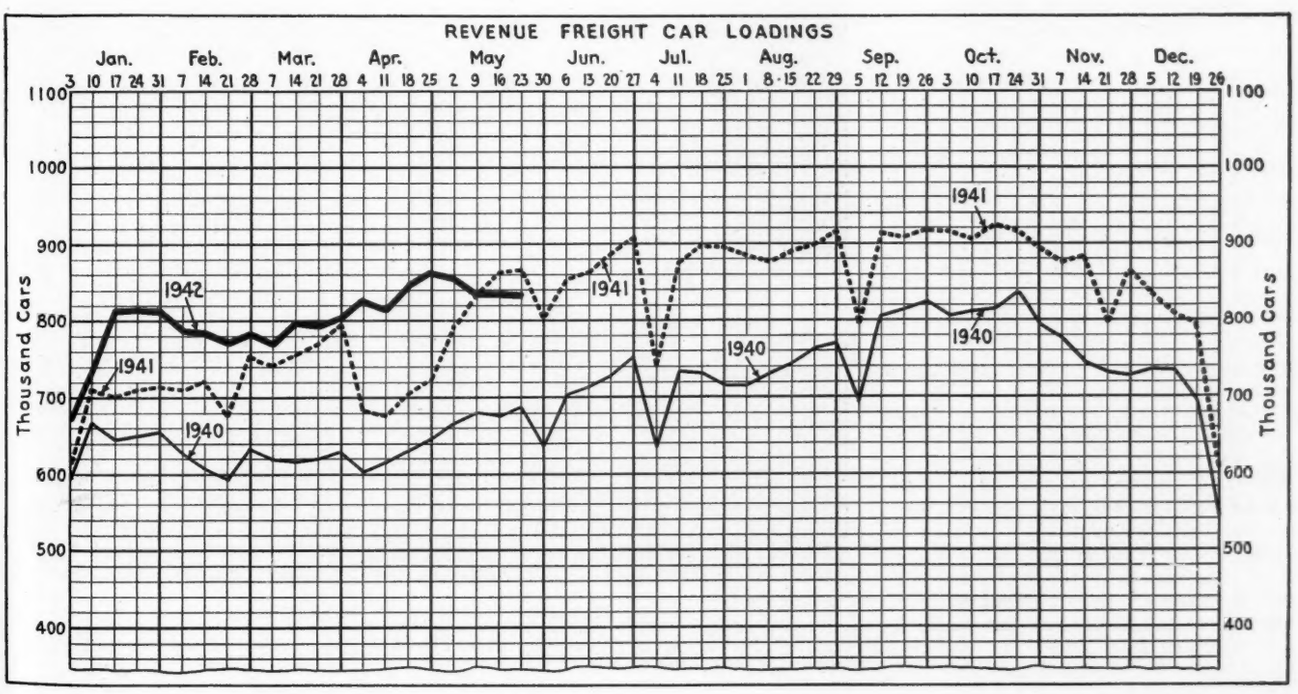
May Employment 12.82 Per Cent Above Last Year

Railroad employment increased another 2.44 per cent—from 1,240,171 to 1,270,401—during the one-month period from mid-April to mid-May, while the May total was 12.82 per cent above May, 1941, according to the Interstate Commerce Commission's latest compilation based on preliminary reports. The index number, based on the 1935-1939 monthly average as 100 and corrected for seasonal variation, was 123 for May as compared with April's 122.5 and May, 1941's, 109.

May employment in all groups was above that of the previous month, the largest increase being the 8.7 per cent rise in the maintenance of way and structures group. Likewise all groups were above May, 1941, the largest increases being: Train and engine service, 17.17 per cent; yardmasters, switchtenders, and hostlers, 13.66 per cent; professional, clerical, and general, 13.24 per cent; maintenance of way and structures, 12.09 per cent; maintenance of equipment and stores, 12 per cent.

Freight Car Loadings

Loadings of revenue freight for the week ended June 6 totaled 854,689 cars. The Association of American Railroads announced on June 11. This was an increase of 58,933 cars, or 7.4 per cent, above the preceding week, an increase of 1,749 cars, or 0.2 per cent, above the corresponding week last year, and an increase of 151,797



cars, or 21.6 per cent, above the comparable 1940 week.

As reported in last week's issue, loadings of revenue freight for the week ended May 30 totaled 795,756 cars, and the summary for that week, compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings

For Week Ended Saturday, May 30

District	1942	1941	1940
Eastern	147,100	164,948	129,395
Allegheny	174,874	179,949	134,454
Pocahontas	57,594	56,273	47,895
Southern	124,558	116,593	95,285
Northwestern	124,715	126,503	103,370
Central Western	103,958	107,598	87,773
Southwestern	62,957	49,919	40,948
Total Western Districts	291,630	284,020	232,091
Total All Roads	795,756	801,783	639,120
Commodities			
Grain and grain products	32,897	36,143	27,243
Live stock	11,782	8,973	10,533
Coal	157,852	144,507	113,221
Coke	13,840	13,718	8,821
Forest products	45,689	39,196	32,263
Ore	82,886	76,145	59,663
Merchandise l.c.l.	87,000	143,327	130,439
Miscellaneous	363,810	339,774	256,937
May 30	795,756	801,783	639,120
May 23	837,748	866,027	687,480
May 16	839,052	860,802	679,065
May 9	839,253	837,149	680,628
May 2	858,904	794,299	665,547
Cumulative Total, 22 Weeks	17,674,236	16,340,675	14,017,582

In Canada.—Carloadings for the week ended May 30 totaled 63,386, as compared with 66,059 in the previous week and 64,981 in the 22nd week last year, according to the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
May 30, 1942	63,386	31,684
May 23, 1942	66,059	32,315
May 16, 1942	65,257	31,934
May 31, 1941	64,981	29,413
Cumulative Totals for Canada:		
May 30, 1942	1,372,815	703,098
May 31, 1941	1,237,856	635,995
June 1, 1940	1,069,761	538,818

Supreme Court to Review Milwaukee Plan

The United States Supreme Court, at its final meeting of the 1941-1942 term on June 8, agreed to review the Interstate Commerce Commission's plan of reorganization for the Chicago, Milwaukee, St. Paul & Pacific. Earlier, on April 27, the court granted a review of the commission's plan in the Western Pacific case. Various petitions seeking review of the Chicago & North Western's commission-approved reorganization plan are pending before the court, but no indication was given as to whether or not this plan would be reviewed during the next term which begins in October.

The Ninth and Seventh Circuit Courts of Appeals, respectively, have refused to approve plan of reorganization for the Western Pacific and the Milwaukee on the ground that the commission had not made complete findings relative to questions of values and equities so that the reviewing court could definitely see in the new plan that provision for full compensation under the rule of the Consolidated Rock Products Company case (312 U. S. 510) had been made. The courts, in both instances, sent the cases back to the commission for proper findings. In the third case before the Supreme Court, that of the Chicago & North Western reorganization, the Seventh Circuit Court upheld the determination of the commission where two-thirds of the creditors had approved the plan.

Northern Coal Operators Concerned Over Differentials

Concern on the part of northern coal operators over plans of the Administration to "pay subventions or rebates on Appalachian coal to New England, New York, and certain portions of New Jersey to compensate the buyers of southern coal for such differences in transportation costs as may be shown to be in effect today as compared with the cost of transportation in December, 1941" was expressed in the Senate on June 8 by Senator Davis, Republican, of Pennsylvania.

"The differentials on coal produced in the southern and northern fields," declared Senator Davis, "have been in effect for the past 15 years. It is now proposed that these be changed by administrative edict. There is no assurance that once these differentials have been wiped out they would ever be restored, and it is a matter of great importance to coal operators in Pennsylvania."

Status on Wharfingers

Reporting on its Ex Parte No. 144 investigation of the status of wharfingers, the Interstate Commerce Commission has found that wharfingers, as such, are neither common or contract water carriers as defined in Part III of the Interstate Commerce Act. Other conclusions of the commission are set forth in the report as follows:

. That common carriers by water subject to Part III of the act are required to provide terminal facilities and services upon reasonable request therefor, in the receipt, transfer, and delivery of passengers and property in connection with transportation by water in interstate or foreign commerce.

That when terminal services are provided by a common carrier by water, the carrier's tariffs must specifically show that the transportation includes such services, or must show separately the rates, fares, and charges therefor.

That if a common carrier's terminal services are performed by a wharfinger, the carrier's tariffs filed with this commission must plainly show all of the terminal facilities and services provided, and all of the rates, fares, charges, rules, regulations, and practices in connection therewith.

Since "no further action appears necessary," the commission issued an order discontinuing the proceeding.

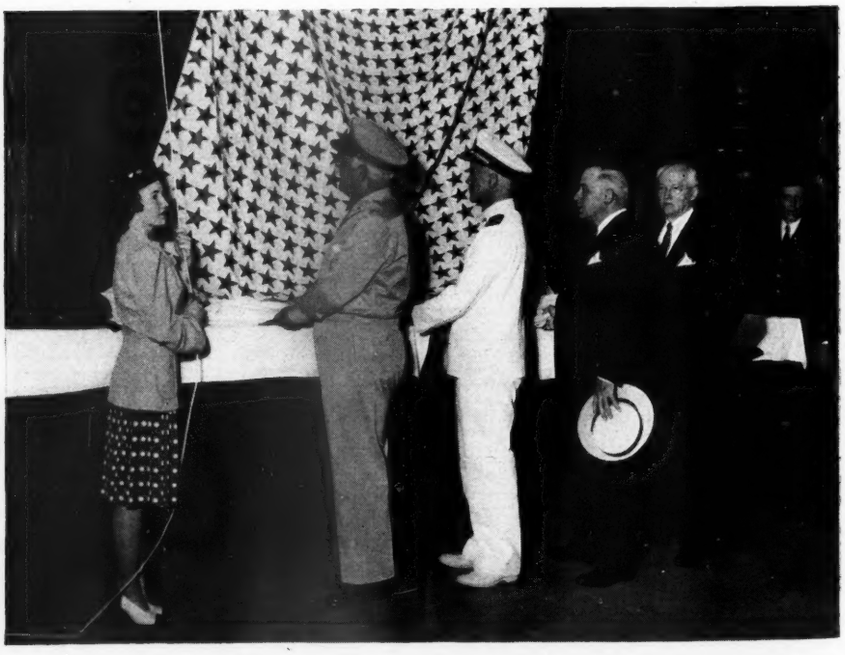
Forwarder Regulation Provisions Postponed by I. C. C.

The Interstate Commerce Commission on June 8 issued an order postponing the effective date of certain sections of the Interstate Commerce Act's recently-enacted Part IV which covers the regulation of freight forwarders. Postponed until July 1 is the effectiveness of section 409 (a), (2) and (3), while the taking effect of sections 405 and 415 is delayed until September 1.

Section 409 provides for the 18-month adjustment period during which forwarders must discontinue their joint-rate arrangements with motor carriers, changing over to operations under "assembling" and "distribution" rates which the act authorizes carriers to publish for forwarders and other similarly-situated shippers. Section 405 embodies the act's requirements with respect to forwarder tariffs, and section 415 requires that any allowance granted by forwarders shall be published in tariffs.

Meanwhile the commission last week had issued an order suspending "until further order of the commission" its much-postponed outstanding orders in No. MC-

* * *



1075 Stars on C. & N. W. Service Flag

Dedicating the flag at North Western Station, Chicago, are Miss Mary Cooper (chosen by her fellow C. & N. W. employees as "Miss North Western"); Colonel Edward Roth, Jr., chief of staff, Sixth Corps Area Army Headquarters; Commander J. E. Hurff, U.S.N., executive officer of Chicago's Navy Pier; R. L. Williams, chief executive officer, C. & N. W., and C. M. Thompson, C. & N. W. Trustee.

2200 and Ex Parte No. MC-31, which had condemned the joint-rate arrangements between forwarders and motor carriers. The original order in No. MC-2200, which involved tariffs of Acme Fast Freight, Inc., was issued July 24, 1939, while that in Ex Parte No. MC-31, which involved tariffs of other forwarders, came May 7, 1940.

I. C. C. Suspends Minimum Motor Carrier Rate Orders

Following through from its recent "show-cause" orders in that connection, the Interstate Commerce Commission has suspended until November 2 the effectiveness of outstanding orders prescribing minimum motor carrier rates in four general proceedings The proceedings are Ex Parte No. MC-20, Trunk Line Territory Motor Carrier Rates; Ex Parte No. MC-21, Central Territory Motor Carrier Rates; Ex Parte No. MC-22, New England Motor Carrier Rates; and Ex Parte No. MC-23, Midwestern Motor Carrier Rates.

Each of the suspension orders stipulates that it "shall not be construed as setting aside the findings previously made in the proceeding respecting the minimum class and commodity rates . . . which should be maintained by respondents and such findings shall be given consideration in the disposition of protests to new schedules filed by motor carriers during the period the effectiveness of the minimum rate orders is suspended."

Wage Cuts Restored on the Rutland

On the petition of W. E. Navin, receiver of the Rutland, authority was granted by the court on June 2 to restore the wage deduction of 5 per cent agreed to by the bulk of the road's employees on March 6, 1941, as reported in *Railway Age* of March 15, 1941, page 491. The new wage scale becomes effective as of May 1 this year, and it is estimated that it will result in an increase in the Rutland's payroll of about $10,000 per month on the average. The reduction agreement accepted by employees would have continued in force until April 1, 1943, but the road's financial position has so improved as a result of wartime traffic and the freight and passenger rate increases allowed early this year that the receiver asked for its earlier termination. The restored pay scale is effective until August 31, this year, with the provision that it may be extended at that time if conditions are still favorable. The Rutland was not a party to the general wage increases negotiated in December, 1941.

New York Central Lengthens Some Passenger Schedules

Faced as other railroads have been with the necessity of adjusting many passenger train schedules to allow for longer station stops and heavy freight business, the New York Central in announcing its new timetables, effective June 7, directs attention to changes that lengthen the running time of several important trains. These schedule revisions, the public is informed, are wartime measures, taken "to give military traffic a clearer track and at the same time to provide the best possible service for essential civilian travel."

Such trains as the "Twentieth Century," "Pacemaker," "Commodore Vanderbilt," "Cleveland Limited," "Detroiter," and "North Shore Limited" are not affected by the present schedule adjustments though the announcement carries the implication that they may be later on, if war requirements make it necessary. The running times of the "Southwestern Limited" and the "Ohio State Limited" have been lengthened 35 minutes eastbound, and they now arrive in New York at 8:50 a. m. The eastbound "Knickerbocker" leaves St. Louis at noon as before, but arrives in New York at 12:20 p. m., 2 hours and 20 minutes later than heretofore. The schedule of the westbound "Knickerbocker" has been lengthened 20 minutes.

The eastbound running times of the "Forest City," the "Lake Shore Limited," the "Water Level Limited" and the "Wolverine," all running from Chicago to New York, have been lengthened 10 to 20 minutes. Fewer changes have been made in westbound schedules, but the "Empire State Express" is 10 minutes slower in each direction between Cleveland and New York. The westbound "Wolverine" connection from Boston is now scheduled separately, arriving in Chicago at 12:55 p. m., or 1 hour and 10 minutes later than formerly, though it leaves Boston 10 minutes earlier.

* * *

C.N.R. Has Guests at Its "Co-operative" Annual Meeting

Visitors at the annual meeting of the Mechanical Section under the Union-Management Co-operative Plan of the Canadian National, held recently in Montreal, included, left to right, Professor Sumner H. Slichter of Harvard University; A. J. Hills, Executive Assistant to the Minister of Labor, Ottawa; Arthur M. Miller, Director of Chemical Engineering, Tennessee Valley Authority; Captain Otto S. Beyer, Director, Division of Transport Personnel, Office of Defense Tansportation, Washington; E. B. Schultz, Chief, Personnel Relations Division, Tennessee Valley Authority; Gordon Freeman, Secretary, Trades and Labor Council, T.V.A.; John Roberts, C.N.R. Chief of Motive Power and Car Equipment, and chairman of the meeting; B. L. Daly, C.N.R. Director; and B. J. Tallon, member of the Unemployment Insurance Commission, Ottawa.

April Accident Statistics

The Interstate Commerce Commission on June 5 made public its Bureau of Statistics' preliminary summary of steam railway accidents for April and this year's first four months. The compilation, which is subject to revision, follows:

Item	Month of April		4 mos. ended with April	
	1942	1941	1942	1941
Number of train accidents*	1,009	592	4,121	2,622
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	161	168	524	491
Injured	125	155	442	508
Passengers on trains:				
(a) In train accidents*				
Killed	3	..	12	4
Injured	85	67	386	491
(b) In train-service accidents				
Killed	2	1	10	1
Injured	147	134	649	550
Travelers not on trains:				
Killed	1	..	3	1
Injured	61	63	252	313
Employees on duty:				
Killed	78	35	301	197
Injured	2,494	1,700	9,668	6,589
All other nontrespassers:**				
Killed	170	114	770	682
Injured	438	417	2,456	2,291
Total—All classes of persons:				
Killed	415	318	1,620	1,376
Injured	3,350	2,536	13,853	10,742

The unusually large increases shown in certain items for April, 1942 compared with April, 1941, may be in part due to the restriction in operations in April, 1941 on account of the cessation of coal mining during this month.

* Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former cause damage of more than $150 to railway property.

** Casualties to "Other nontrespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties *for all classes of persons, including both trespassers and non-trespassers,* were as follows:

Persons:				
Killed	152	105	798	630
Injured	273	285	1,845	1,665

New Haven Produces New Public Relations Film

The New Haven's recently completed sound motion picture entitled "A Great Railroad at Work" is now being shown to employees and their families before it is released for general exhibition. The film has been in production for several months. Its action sequences and narrative by Lowell Thomas tell the story of the day's work on the railroad, showing men on the job in various departments,

not overlooking the activities behind the scenes that keep the trains moving—the wheel lathe, the icing platform, the riveter in the car-shop, the storeroom, the signal tower, and similar essential operations the customer in the coach or club car seldom think of.

Designed as a good-will builder, this film will be shown to clubs, schools and miscellaneous organizations throughout southern New England, to acquaint the general public with the services the railroad offers, the conditions under which it functions, and the part it plays in the life of the communities that depend on it. To arouse the interest of the road's employees, and incidentally to give them a better understanding of the other man's job, they are being invited to previews before the regular public showings begin.

Would Change Ex Parte 148 Rule on Disposition of Fractions

Because its application has the effect of creating "innumerable" departures from the fourth section's aggregate-of-intermediates provision, railroads have asked the Interstate Commerce Commission to amend that portion of the Ex Parte 148 fare-increase order which promulgates the rule for the disposition of fractions. The petition notes that the existing fourth-section relief in connection with the foregoing expires August 10, and asks that while modifying the rule the commission permit carriers at their option to continue under the present rule until January 10, 1943.

The present rule provides that where the 10 per cent increase results in a total fare less than $1, all fractions less than one-half cent shall be dropped and all over one-half cent shall be adjusted to the next cent. On fares over $1 it stipuates that they may be adjusted to end in zero or five, but no fare shall be increased more than 2.5 cents for that purpose. The amendment sought in the railroad petition would provide that fares resulting from the increase shall end in full cents, and fractions shall be eliminated by increasing them to the next cent.

The carriers want the change so that they may proceed to comply with the requirement that the fare increases, now published in connecting link supplements, be incorporated into their passenger-fare tariffs.

ODT Submits Pay Figures in T. P. & W. Case

Pay for switch tenders, hostlers, helpers, car inspectors and train service employees on the Toledo, Peoria & Western, which amounted to $18,478 for April, 1942, a test period, would have amounted to $56,711 if rates and rules proposed by the brotherhoods had been in effect, according to an exhibit presented by the Office of Defense Transportation at a hearing at Chicago on June 10 before Justice Benjamin C. Hilliard of the Supreme Court of Colorado who was appointed arbitrator of the dispute between the railroad and its employees by the National War Labor Board. The exhibit was prepared by the Office of Defense Transportation at the request of representatives of the National War Labor Board and was accepted in evidence by Justice Hilliard. Presented by Clare Roddewig, attorney for the O.D.T., it was submitted as "factual information and not as expressing an opinion as to whether the application of proposed rates and rules is fair or unfair."

The exhibit, which was prepared by 22 persons working day and night for two weeks, used April, 1942 as a base or test period and showed the amounts paid under existing rates and rules and those that would have been paid under proposed rates and present rules, and under proposed rates and proposed rules. Counsel for the brotherhoods objected to the compilation on the ground that during the hearings in May they had asked that standard rates of pay and standard rules be applied to the T. P. & W. whereas the compilation had applied proposed rates and rules without taking into consideration standard rates and rules which, in some instances, might produce a difference in added costs.

The recapitulation of the pay involved in the operation of all trains during April is as follows:

	Actual April, 1942, Pay	Proposed Rates and Present Rules	Proposed Rates and Proposed Rules
Miscellaneous Employees			
Switch Tenders	$259.20[1]	$564.30[2]	$564.30[2]
Hostlers and Helpers, etc..	1,203.60	2,233.80	3,210.90
Car Inspectors.	2,534.40	2,534.40	2,956.80
Total	$3,997.20	$5,332.50	$6,732.00
Train Service Employees			
Engineers	$3,492.25	$4,440.46	$10,653.23
Firemen	2,816.50	3,504.20	8,436.29
Conductors ...	3,151.34	3,780.20	9,332.66
Brakemen	5,020.87	6,222.79	16,200.70
Flagmen	.....	.....	5,356.14
Total	$14,480.96	$17,947.65	$49,979.02
Grand Total.	$18,478.16	$23,280.15	$56,711.02

[1] 3 Shifts at $2.88 per day.
[2] 3 Shifts at $6.27 per day.

The exhibit shows that train service employees, without any increase in numbers would have received the major portion of the increase under proposed rates and proposed rules. Under the proposed rules the number of hostlers would have been increased from 8 to 16 and car inspection forces form 12 to 14.

One part of the exhibit showed the movement of train No. 120 on April 1, 1942, from Hamilton to Warsaw to Hamilton to Keokuk to Peoria yard and the application of proposed rates and rules. The engine crew was on duty 8 hr. 20 min. and the train crew 8 hr., for which they were paid for 10 hr. 10 min. Under the May 1, 1942 rates and the rules the engineman received $9.23, the fireman $7.33, the conductor

* * *

OEM Photo by Palmer

28-Ton Tanks Begin Their Journey by Rail—From Factory to the Fighting Front

$8.22, and two brakemen $6.45 each, or a total of $37.68. Under the proposed rates and proposed rules the engineman would have received $38.76, the fireman $30.74, the conductor $33.62 and the brakemen $28.47 each, while an added flagman would have received $28.40 and an extra yard crew $39.88, or a total of $228.41. The crew would have been paid a minimum day, or 100 miles, for making the trip of 10 miles from Hamilton to Warsaw to Hamilton, a minimum day for making a trip of two miles from Hamilton to Keokuk to Hamilton, 115 miles for the trip from Hamilton to Peoria yard because of pick ups at four points, and a yard day for a pick up at Hollis and the yard crew first out would also have been paid a yard day because of the train picking up a car at Hollis.

On the following day, counsel for the brotherhoods contended that "representatives of management have placed interpretations upon the proposed rules wholly at variance with our understanding and interpretation." They also asserted that the calculation of $56,711 for the month of April was 55 per cent too high. They asked that the hearing be postponed for two weeks to permit representatives of management and the brotherhoods to confer and endeavor to arrive at a common interpretation of the rules. Justice Hilliard telephoned the Labor Board to secure its approval of the suggested procedure but at the time of going to press no reply had been received.

Representation of Employees

Certifying results of recent balloting by various groups of Atchison, Topeka & Santa Fe employees, the National Mediation Board has found that the machinists, boilermakers, blacksmiths, and sheet metal workers (including water service repairmen) desire no change in their representation by the Association of Consolidated Metal Crafts, Helpers and Apprentices, A. T. & S. F. Rwy. System. Also, the carmen (including coach cleaners) voted to retain the Association of Carmen, Helpers and Apprentices, A. T. & S. F. Rwy. System, as their representative.

At the same time the electrical workers (including telegraph and telephone linemen) and the power house employees and railway shop laborers chose organizations operating through the Railway Employees Department, American Federation of Labor, i. e., the International Brotherhood of Electrical Workers and the International Brotherhood of Firemen, Oilers, Helpers, Round House and Railway Shop Laborers, respectively.

On the Texas Pacific-Missouri Pacific Terminal, the power house employees and railway shop laborers have chosen the National Federation of Railway Workers, while the International Brotherhood of Boilermakers, Iron Ship Builders and Helpers of America, A. F. of L., has been chosen by boilermakers employed by the Texas & New Orleans. Blacksmiths employed by the latter voted to retain the Association of Shop Craft Employees of the Southern Pacific Lines in Texas and Louisiana.

On the Texas-Mexican, the conductors voted to retain the Order of Railway Conductors, but the yardmen (foremen and helpers) decided to change over to representation by the Brotherhood of Railroad Trainmen. On the basis of a check made with the two Southern Pacific of Mexico engineers eligible to vote, the Board has certified that the Brotherhood of Locomotive Engineers is their duly designated representative. As a result of another check, the Board has designated the Brotherhood of Railway Clerks as the representative of the clerical, office, station and storehouse employees of the Fruit Growers Express Company.

Supply Trade

The Miller-Lewis Railroad Equipment Corporation has been appointed representative of the **Grip Nut Company,** with offices at 80-82 Reade Street, New York.

The H. K. Porter Company will open a plant in Blairsville, Pa., to expand its facilities for the war effort. It is anticipated that the plant will employ between 150 and 200 men when in full operation.

Alfred Sontag has joined the staff of the testing machine department of the Baldwin Southwark division of the **Baldwin Locomotive Works,** Philadelphia, Pa. Mr. Sontag was chief engineer and sales manager of the Riehle testing machine division of American Machine and Metals.

Arthur Williams has been appointed chief engineer of the **Superheater Company.** Mr. Williams was born in Swindon, England, in 1904, and received his technical education at Swindon college. He served a special apprenticeship with the Great Western Railway of England from 1921 to 1926. He came to America in October, 1926, to join the Franklin Railway Supply Company, and in April, 1927, became associated with the Lima Locomotive Works. In the latter part of 1927

Arthur Williams

he joined the Superheater Company's engineering department. He was appointed research engineer in 1930, assistant chief engineer in 1938, and manager of the production engineering division in 1939. Mr. Williams has been the author of a number of papers on heat transfer which he presented before the A. S. M. E. and railway clubs. He is a member of the A. S. M. E. and an associated member of the Institution of Mechanical Engineers (London).

Harry C. Beaver, president of the Worthington Pump & Machinery Corporation, has been elected president of the **Worthington-Gamon Meter Company** to succeed the late **E. T. Fishwick. R. R. Anderson,** treasurer and manager of the Worthington-Gamon Meter Company has been elected a vice-president and director.

C. W. Spittal has been appointed general manager and **W. R. Breeler** assistant general manager of the Howard Avenue and Brigham Road plants of the **Allegheny Ludlum Steel Corporation** in Dunkirk, N. Y. **C. Cottrell** has been named production manager of the Howard Avenue plant and **Merle Graham** production manager of the Brigham Road plant. **W. H. Norris** has been named manager of the corporation's Watervliet, N. Y., plant, with **J. Q. A. Doolittle** as assistant manager and **G. Anderson** as production manager.

Walter Smith has been appointed western manager of the **Pilliod Company**

Walter Smith

with offices in Chicago, to succeed **Frank Fisher,** who has retired after 21 years of service. Mr. Smith was formerly manager of the western railroad division of the Vanadium Corporation of America. He was graduated from Cornell University with a degree in mechanical engineering in 1909 and entered railroad service in that same year as a special apprentice on the Baltimore & Ohio at Newark, Ohio. He subsequently served in various supervisory capacities with that road and with the Chicago & North Western, and from 1913 to 1916 he was inspector of locomotives built for the C. & N. W. at Schenectady, N. Y. He joined the Pyle-National Company in 1916, leaving in 1918 to serve as a first lieutenant with the 19th Railroad Engineers in France. He resumed work with the Pyle-National Company in August, 1919, continuing as a special representative until 1930 when he joined the Vanadium Corporation of America as assistant manager of the railroad division.

He was appointed manager of the western railroad division of that company in 1932 and held that position until his new appointment.

J. D. McKnight has been named manager of the Detroit, Mich., district sales office of the **Allegheny Ludlum Steel Corporation.** Mr. McKnight was formerly assistant manager in Detroit and has been associated with Allegheny Ludlum for the past six years. **E. E. Sanborn** has been appointed manager of tool steel sales in Allegheny Ludlum's Cleveland, Ohio, territory.

OBITUARY

Walter S. Adams, who, prior to his retirement on April 1, 1941, had been connected with the J. G. Brill Company continuously for 56 years, died suddenly on May 27. He was 80 years of age. Mr. Adams started with the Brill Company as a draftsman in the engineering department, becoming chief draftsman in the early 1900's, and later designing engineer. He was personally responsible for important developments in street railway cars and car trucks, and more than 150 patents were granted on his inventions covering transportation equipment and associated products. In recent years he was engineer of patents for the Brill Company, investigating new designs and following patent matters.

Hobart S. Johnson, chairman of the board of directors of the Gisholt Machine Company, Madison, Wis., died on May 28 after a long illness. Mr. Johnson was born in Madison, Wis., on October 7, 1873, and studied mechanical engineering at the University of Wisconsin from 1890 to 1893 when he left the university to take charge of the Gisholt Machine Company machine tool exhibit at the World's Columbian exposition in Chicago. At the close of the exposition he entered the shops of the company and in 1897 became shop superintendent and works manager, a position he held for several years. Later he advanced to the vice-presidency, and, upon the death of his brother Carl in 1931, became president of the company. Because of failing health, he resigned from the latter position in 1940 and was succeeded by his son, George H. Johnson.

Hobart S. Johnson

Equipment and Supplies

LOCOMOTIVES

THE MISSOURI PACIFIC has been authorized by the District Court to purchase four 5,400-h.p. Diesel-electric freight locomotives at a cost of $1,920,000.

THE READING has placed orders for 10 Diesel-electric switching locomotives, allocating four of 1,000 hp. and three of 660 hp. to the Baldwin Locomotive Works and three of 1,000 hp. to the Electro-Motive Corporation.

FREIGHT CARS

THE WESTERN MARYLAND is considering the purchase of a number of second-hand pneumatic dump cars.

THE REPUBLIC STEEL CORPORATION is inquiring for 20 twin hopper cars of 50 tons' capacity and 15 triple hopper cars of 70 tons' capacity.

Freight Car Deliveries During May Totaled 8,324 Units

The number of new freight cars delivered during May totaled 8,324, including 751 by railroad company shops and 7,573 by contract car builders. Of this latter number 5,700 were for domestic service and 1,873 for export. This compares with 10,552 cars delivered in the preceding month of April, 2,067 by railroad company shops and 7,945 by contract car builders, of which latter number 7,261 were for domestic service and 684 for export.

The number of freight cars delivered during the first five months of 1942 totaled 46,313, including 9,008 by railroad company shops and 37,305 by contract car builders. Of this latter number, 34,580 were for domestic service and 2,725 for export. Deliveries thus far this year for domestic service only totaled 43,588 cars.

The backlog of cars on order and undelivered with contract car builders only at May 31 totaled 46,894, of which 33,350 were on order for domestic railroad companies, with the balance comprising cars for industrial companies and private car lines, U. S. Government departments, export and lend-lease.

Baldwin's Production at Highest Level in Company's History

Stepped-up production of Army tanks, guns, ship propellers and other war items has been a major factor in pushing the Baldwin Locomotive Works' over-all production figures to the highest level in its 111 years of history, according to a statement by Charles E. Brinley, president, on June 8.

"Our tank production was greater in May than in any previous month," Mr. Brinley said, "and is steadily moving upward. The same thing is true of anti-aircraft and other guns produced in our shops. May was our best month to date in the manufacture of bronze propellers for the merchant marine. Production of many other war-connected items is moving at a constantly faster rate."

Although the difficult raw material situation has caused delays leading to some unevenness in productive work, Baldwin expects its 1942 billings will be 50 per cent greater than in any recent year, Mr. Brinley stated, adding that the May billings of more than $13,000,000 were exclusive of sales by the Midvale Company, a Baldwin associate.

"Even with the great emphasis on materials directly intended for the fighting forces," he said, "we are by no means neglecting our locomotive business. Railroads are such an essential part of a nation at war that their locomotive purchases are ranked high in priority. In May, we shipped 22 large steam locomotives, the largest number in any month since the early 1920's. One of our subsidiaries, the Whitcomb Locomotive Company, at Rochelle, Ill., shipped twice as many units in April as in its preceding largest month. It made another record by shipping five 65-ton Diesel-electric locomotives in one week. Baldwin Southwark and our foundries at Eddystone, Pa., and Standard Steel Works, at Lewistown, Pa., also are doing well."

Construction

ATLANTIC COAST LINE.—The Charleston & Western Carolina (A.C.L. subsidiary) has awarded a contract to the Ross and White Company, Chicago, for the construction, including foundations, of a 500-ton capacity, two-track reinforced concrete automatic electric coaling plant to be erected at Laurens, S. C.

BALTIMORE & OHIO.—The Ohio Department of Highways has awarded a contract amounting to $675,899 to A. J. Baltes, Norwalk, Ohio, for improvements on U. S. Highway No. 224 and State Highway No. 241, involving the construction of two bridges, one over a main track and the other over a service track of the B. & O. The bridge over the main track will be a rigid frame reinforced concrete structure with a 64-ft. span. The bridge over the service track will consist of four spans 40½, 55½, 55½ and 40½ ft. long of the continuous concrete beam type. Both bridges will provide two 26-ft. traffic lanes, separated by a 4-ft. division strip, and two 6-ft. sidewalks. The improvement will provide better access to an aircraft corporation plant.

MISSOURI PACIFIC LINES.—A contract has been awarded by the War Department for the construction of a spur track to an army air field in Texas.

NEW YORK, ONTARIO & WESTERN.—The trustee has been authorized by the U. S. District Court to spend $60,000 for additions to its dock facilities on the Oswego

River at Oswego, N. Y., to accommodate additional lake-rail freight interchange.

ST. LOUIS-SAN FRANCISCO. — This road has recently installed new Red Devil locomotive coalers at Ft. Scott, Kan., and Clinton, Mo.

ST. LOUIS SOUTHWESTERN.—A contract has been awarded the Cotton Belt by the War Department for the construction of a spur track to an army air field in Texas.

Financial

ATLANTIC COAST LINE-LOUISVILLE & NASHVILLE.—*Abandonment by the Lexington Terminal.*—Acting on their request, Division 4 of the Interstate Commerce Commission in Finance Docket No. 13653 has dismissed the application of the Lexington Terminal for authority to abandon a line and the Atlantic Coast Line and the Louisville & Nashville to abandon the operation thereof in Oglethorpe County, Ga.

CHESAPEAKE & OHIO.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon a part of its Glen Jean subdivision extending from Station 502 plus 54 in Fayette County, W. Va., to Glen Jean, 3.3 miles.

DELAWARE, LACKAWANNA & WESTERN.—*Acquisition of Control.*—This company has asked the Interstate Commerce Commission for authority to acquire control of the Greene through ownership of its stock. The application states that the company has a commitment for the purchase of 1,100 shares of Greene stock at $40 a share. It now holds 211 shares of the road's stock and the acquisition of an additional 1,100 will result in its holding a controlling number of shares.

As a result of the acquisition of control of the road which runs from Chenango Forks, N. Y., to Greene, 8.1 miles, and which is operated by the Lackawanna, the company will effect a saving of $6,600 per year in fixed charges.

ERIE.—*Bonds.*—This company has asked the Interstate Commerce Commission for authority to issue and sell $5,955,850 of first consolidated mortgage four per cent bonds, series C, the proceeds to be used with other cash to recall a like amount of first consolidated mortgage 4¾ per cent bonds, series A, now outstanding. The new bonds, which will mature August 1, 1957, have been sold through Smith, Barney & Co. at 100.5. The old bonds will be called at 105, and the company estimates that it will effect a net saving of $331,376 by reducing the interest rate from 4¾ to four per cent.

NEVADA COPPER BELT.—Following the reorganization of the Nevada Copper Belt Railroad (now the Nevada Copper Belt Railway), the officers are as follows: Fred D. Parr, president; T. A. Goodrick, vice-president and traffic manager; Vera Parr Cox, vice-president; William C. Morehead, treasurer; and John Parr Cox, controller and purchasing agent, all with headquarters at San Francisco. Other officers with headquarters at Mason, Nev., are as follows: Fred Parr Cox, secretary; L. G. Ellis, superintendent, and J. L. Fautz, auditor.

CHICAGO, SPRINGFIELD & ST. LOUIS.—Following the reorganization of the Chicago, Springfield & St. Louis (now the Springfield & Southwestern), the officers are: Benjamin Schwartz, president, Jersey City, N. J.; W. G. Bell, general manager, Springfield, Ohio; and Elmer Nafziger, counsel, Springfield, Ill.

PERE MARQUETTE. — *Equipment Trust Certificates.*—This company has asked the Interstate Commerce Commission for authority to assume liability for $680,000 of equipment trust certificates, maturing in 10 equal annual installments of $68,000 on June 15 in each of the years from 1943 to 1952, inclusive. The proceeds will be used as a part of the purchase price of new equipment costing a total of $869,342 and consisting of 250 70-ton, 53 ft. 6 in. steel-underframe flat cars. The application informs the commission that the certificates will bear interest at a rate not to exceed three per cent.

READING.—*Abandonment by the Peoples.*—The Peoples and the Reading, respectively, have been authorized by Division 4 of the Interstate Commerce Commission to abandon a line and the operation thereof extending from Westwood Switch, Pa., to the end of the line at Minersville, 1.6 miles.

UNION PACIFIC. — *Abandonment by the Oregon-Washington Railroad & Navigation.*—The Oregon-Washington Railroad & Navigation and the Union Pacific, respectively, have asked the Interstate Commerce Commission for authority to abandon the Shaniko branch and the operation thereof extending from Biggs, Ore., to Shaniko, 70 miles.

WABASH.—*Receivership.*—Division 4 of the Interstate Commerce Commission has modified its orders of December 31, 1941, and April 28, 1942, so as to permit this company to issue in connection with its reorganization scrip certificates in lieu of fractions of shares of stock, bonds, and notes. The above-mentioned orders were also amended so as to permit this company to pledge under its general mortgage, subject to prior pledge under the first mortgage, $4,533,000 of pledged collateral 1½ per cent notes, series B.

Average Prices of Stocks and Bonds

	June 9	Last week	Last year
Average price of 20 representative railway stocks..	24.44	24.12	29.02
Average price of 20 representative railway bonds..	64.72	64.88	64.70

Dividends Declared

Atchison, Topeka & Santa Fe.—5 Per Cent Non-cumulative Preferred, $2.50, semi-annually, payable August 1 to holders of record June 25.

Cincinnati, New Orleans & Texas Pacific.—Irregular, $4.00, payable June 24 to holders of record June 8.

Lackawanna Railroad of New Jersey.—4 Per Cent Guaranteed, $1.00, quarterly, payable July 1 to holders of record June 12.

Mobile & Birmingham.—4 Per Cent Preferred, $2.00, semi-annually, payable July 1 to holders of record June 1.

New York, Lackawanna & Western.—$1.25, quarterly, payable July 1 to holders of record June 12.

West Jersey & Seashore.—$1.50, semi-annually, payable July 1 to holders of record June 15.

Railway Officers

EXECUTIVE

Urbane A. Noble has been elected president of the Mississippi Central, with headquarters at Scranton, Pa., succeeding **Frank P. Benjamin.**

T. P. Scully, superintendent of the Chicago, West Pullman & Southern, has been elected vice-president and superintendent, with headquarters as before at South Chicago, Ill.

Robert B. Tunstall, vice-president and general counsel of the Chesapeake & Ohio, and general counsel of the New York, Chicago & St. Louis (Nickel Plate), has also been elected vice-president and general counsel of the Nickel Plate and vice-president-law of the Pere Marquette, with headquarters at Cleveland, Ohio. A biography and photograph of Mr. Tunstall were published in the *Railway Age* of April 25, following his election as vice-president and general counsel of the C. & O.

Claude E. Peterson, whose promotion to the newly created position of assistant vice-president in the passenger department

Claude E. Peterson

of the Southern Pacific, with headquarters at San Francisco, Cal., was reported in the *Railway Age* of May 30, was born at Boulder Creek, Cal., on April 27, 1901, and entered railway service in 1917 as a junior clerk in the passenger department of the Southern Pacific at San Francisco. He was later advanced successively to clerk in the rate department, special clerk, assistant chief rate clerk and chief statistician. On April 1, 1937, Mr. Peterson was appointed assistant chairman of the Transcontinental Passenger Association at Chicago, and on July 1, 1938, he returned to the Southern Pacific as assistant to the vice-president in charge of system passenger traffic, with headquarters at San Francisco, which position he held until his recent promotion effective June 1.

William R. Devenish, general manager of the Western region of the Canadian National, has been promoted to vice-presi-

dent and general manager of that region, with headquarters as before at Winnipeg, Man. Mr. Devenish was born in Ireland on November 21, 1882, and was educated at St. Columbus College and Trinity College, Dublin. After previous experience as an engineer in railway work, he engaged in

William R. Devenish

construction activities with the Transcontinental Railway in 1912 and the following year became division engineer for the Intercolonial at Moncton, N. B. After holding supervisory posts at Campbellton, N. B., and Moncton, he was appointed general superintendent for the Canadian National at Toronto and later at North Bay, Ont. In 1928, Mr. Devenish became general superintendent of the Alberta district, with headquarters at Edmonton, Alta., and in 1936 was appointed general superintendent of transportation for the Western region, with headquarters at Winnipeg. In October, 1939, he was advanced to general manager of the Western region.

George Zabriskie, chief traffic officer of the New York, Ontario & Western, with headquarters at New York, has been elected vice-president of the company. Mr.

George Zabriskie

Zabriskie was born on August 28, 1890, at Tacoma, Wash., and attended the grammar schools of that city and Bellingham, Wash.; Trinity School, New York; and Massachusetts State College, Amherst, Mass., graduating from the latter instituion in 1913 with a B.Sc. degree. He entered railroad service in February, 1914, as yard clerk for the New York, New Haven & Hartford at Harlem River, N. Y., in which position he served until 1915. After spending two years in other business, Mr. Zabriskie re-entered railway service with the Grand Trunk Pacific in the local freight office at Winnipeg as clerk, and subsequently served as train agent for that road. Leaving the latter position to serve in the U. S. Army, Mr. Zabriskie in January, 1919, returned again to the Grand Trunk Pacific as train agent. From May, 1919, until November, 1919, he was traffic manager for the Prince Rupert Dry Dock & Engineering Co., at Prince Rupert, B. C. In 1920 he became traffic agent for the Chicago Great Western at New York and in 1924 he became associated with the Wabash as representative in the freight department in New York. Mr. Zabriskie was appointed general eastern agent of the Pittsburgh & West Virginia at New York in January, 1934, holding that position until September, 1937, when he became freight traffic manager of the New York, Ontario & Western. He was promoted to chief traffic officer of the New York, Ontario & Western and the New York, Susquehanna & Western in November, 1941.

FINANCIAL, LEGAL AND ACCOUNTING

S. A. Faske has been appointed auditor of the Chicago, West Pullman & Southern and the Illinois Northern, succeeding **J. A. Fitzmaurice,** who has retired.

A. F. Brevillier has been elected comptroller of the Pullman Company, with headquarters at Chicago. **H. J. Jostock** has been appointed assistant treasurer.

W. P. Beall, chief clerk at the stationery store of the Southern Pacific at West Oakland, Cal., has been promoted to stationery storekeeper, with the same headquarters, succeeding **H. P. Buchenery,** whose death on May 6 is reported elsewhere in these columns.

H. G. Hedrick, who has been associated with the law department of the Southern in North Carolina for 15 years, has been appointed general attorney of the road, with headquarters at Washington, D. C., succeeding **H. O'B. Cooper,** who will retire from active duty on August 1, after 36 years of service with the law department of the Southern, the last 24 years as general attorney in charge of personal injuries.

OPERATING

G. Tarin has been appointed acting superintendent of transportation of the Mexico North-Western, with headquarters at Madera, Chih.

Carl J. Millikin, whose promotion, effective June 1, to superintendent of the Chicago-Petoskey division of the Pere Marquette, with headquarters at Grand Rapids, Mich., was reported in the *Railway Age* of June 6, was born at Kingston, Mich., on September 2, 1892, and entered railway service on February 3, 1909, as a station helper on the Pere Marquette at Mayville, Mich., later serving as telegraph operator and agent at various locations. On April 10, 1923, he was promoted to trainmaster at Saginaw, Mich., and on March 1, 1940, he was transferred to Grand Rapids. Mr. Millikin was advanced to assistant superintendent of the Chicago-Petoskey division,

Carl J. Millikin

with the same headquarters, on January 1, 1941, which position he held until his recent promotion.

Pedro S. Alvarez has been appointed assistant general manager of the Pacific division of the Kansas City, Mexico & Orient, with headquarters at Los Mochis, Sin., succeeding **J. L. Bugarini.**

Charles Smale, whose promotion to superintendent of the Canadian division of the Pere Marquette, with headquarters at St. Thomas, Ont., was reported in the *Railway Age* of June 6, was born at Union, Ont., on September 19, 1895, and entered railway service on January 2, 1915, as a locomotive fireman on the Pere Marquette at St. Thomas. On December 10, 1918, he was promoted to engineer and he was

Charles Smale

later advanced to road foreman of engines. On December 1, 1940, Mr. Smale was promoted to trainmaster, which position he held until his recent promotion, effective June 1. All of his service has been at St. Thomas.

J. L. Cooke has been appointed assistant general superintendent transportation of the

Seaboard Air Line, with headquarters at Norfolk, Va. **R. A. Walker** has been appointed assistant superintendent of the Georgia division, with headquarters at Atlanta, Ga. **J. W. Sexton** has been appointed assistant superintendent of the South Carolina division, with headquarters at Savannah, Ga. C. A. McRee has been appointed assistant superintendent of the North Carolina division, at Hamlet, N. C. **W. G. Guess** has been appointed assistant superintendent of the North Florida division, at Jacksonville, Fla. **C. L. Sauls** has been appointed assistant superintendent of the South Florida division at Tampa, Fla.

C. G. Sibley, whose appointment as general manager of the Atlantic Coast Line, with headquarters at Wilmington, N. C., was reported in the *Railway Age* of May 30, was born on February 13, 1886, at Savannah, Ga. He entered railroad service in 1899 as messenger at Plant System offices (now Atlantic Coast Line) at Savannah, serving in various clerical positions until 1914. From 1914 to 1918 he served as trainmaster on the Atlantic Coast Line at Savannah, becoming a member of the staff of the regional director of the

C. G. Sibley

United States Railroad Administration at Atlanta in 1918. From 1918 to 1921 Mr. Sibley served as superintendent and general superintendent on the Winston-Salem & Southern, later becoming trainmaster on the Atlantic Coast Line at Lakeland, Fla., and superintendent at Rocky Mount, N. C. From 1925 to 1927 he was superintendent transportation at Savannah, becoming general superintendent at Rocky Mount in the latter year. Mr. Sibley was appointed assistant general manager at Wilmington in 1930, which position he held until his recent election as general manager.

Fred J. Myers, whose promotion to superintendent on the Canadian National, with headquarters at Dauphin, Man., was reported in the *Railway Age* of June 6, was born in London, England, on May 15, 1884, and studied correspondence courses. He entered railway service on July 11, 1901, as a junior clerk on the Canadian Pacific at Winnipeg, later serving as clerk and secretary to the general superintendent and secretary in the construction department. In 1906 he was appointed secretary to the assistant chief engineer of the Isthmian Canal Commission at Panama, Canal Zone, and in 1907 he returned to the Canadian Pacific as secretary to the manager of construction at Toronto, Ont., and Montreal, Que. From 1908 to 1911, he served as clerk to the general superintendent at Vancouver, B. C., and chief clerk to the

Fred J. Myers

superintendent at Nelson, B. C. In 1911 Mr. Myers went with the Canadian National as chief clerk to the general superintendent at Winnipeg and in 1916 he was promoted to trainmaster at Port Arthur, Ont., later being transferred to North Battleford, Sask. In 1918 he was advanced to assistant superintendent at Moose Jaw, Sask., being transferred the following year to Brandon, Man. Mr. Myers was appointed special representative to the general manager at Winnipeg on May 1, 1939, and on January 15, 1942, he was appointed assistant superintendent at Fort Rouge, Man., which position he held until his recent promotion, effective May 15.

TRAFFIC

W. H. McCloud has been appointed general agent for the Illinois Northern at Detroit, Mich.

C. Reising has been appointed manager of mail traffic of the Chicago, Indianapolis & Louisville (Monon), with headquarters at New Albany, Ind.

T. K. Thornton, freight agent on the Missouri - Kansas - Texas at McAlester, Okla., has been promoted to general agent at St. Louis, Mo., succeeding **W. R. Mooney,** who has retired from active service.

Harold B. Bovee, assistant foreign freight agent of the Pennsylvania at New York, has been promoted to acting foreign freight agent at Chicago, succeeding **Edward Ayre,** who has been granted a leave of absence to enter military service.

Herman W. Klein, general freight agent for the Northern district of the Southern Pacific with headquarters at Portland, Ore., has been promoted to freight traffic manager, Northern district, with the same headquarters.

W. H. Happ, district passenger agent for the Canadian National at Kansas City, Mo., and **W. E. Rudolph,** district passenger agent at St. Louis, Mo., have been promoted to general agents, passenger department, with the same headquarters, a change of title.

J. I. Gillikin has been appointed manager of merchandise traffic of the Gulf, Mobile & Ohio, a newly created position, with headquarters at Mobile, Ala. **R. P. Beacham,** agent at Laurel, Miss., has been promoted to general agent at Cairo, Ill., succeeding **M. W. Kilmartin,** deceased.

R. A. Hasenstab, district freight agent for the Canadian Pacific and the Minneapolis, St. Paul & Sault Ste. Marie at St. Louis, Mo., has been transferred to Chicago, succeeding **G. H. Keusch,** deceased, and **J. H. Decker** has been appointed district freight agent at St. Louis, replacing Mr. Hasenstab.

George L. Bryson, general agent of the Canadian National, with headquarters at New York, has been appointed general eastern passenger agent, with the same headquarters. Mr. Bryson was born at Chicago and entered the service of the Grand Trunk-Canadian National in May, 1912, as ticket stock clerk at Chicago. After subsequent service in Detroit, Mich.,

George L. Bryson

he was appointed traveling passenger agent at Kansas City and after service in World War I he returned to the railroad as city passenger agent at Chicago. He subsequently served as traveling passenger agent at Chicago and Cincinnati, Ohio. Mr. Bryson was appointed city passenger agent at Philadelphia, Pa., in 1922 and in June, 1927, he was promoted to district passenger agent at Washington, D. C. In March, 1940, he was appointed general agent at New York, which position he held until his recent promotion.

Charles V. Howick, traveling passenger agent of the Canadian National at Buffalo, N. Y., has been promoted to general agent, passenger department, at Buffalo, with jurisdiction over the Buffalo (N. Y.) and Pittsburgh (Pa.) territories, succeeding **W. J. Burr,** who retired on pension on May 29 after more than 40 years of continuous service.

W. O. Dodge, general eastern agent for the St. Louis-San Francisco at New York, has been promoted to eastern traffic manager, with the same headquarters, a newly

created position. **P. J. Winter,** soliciting freight and passenger agent at New York, has been advanced to general agent at that point. **John Marsh,** traveling freight and passenger agent at Cleveland, Ohio, has been promoted to general agent at Cleveland, succeeding **R. E. Pierce,** who has retired from active service.

W. G. Peoples, assistant general traffic manager of the Southern Pacific Lines, with headquarters at Chicago, has been promoted to freight traffic manager, with headquarters at New York, succeeding **S. C. Chiles,** who retired on June 1. **H. H. Gray,** general passenger agent at New York, has been advanced to passenger traffic manager, with the same headquarters. Mr. Peoples and Mr. Gray will have jurisdiction over all off-line agencies on the Eastern Seaboard and in the Southeastern territory and while **C. T. Collett,** freight traffic manager at Chicago, and **O. P. Bartlett,** passenger traffic manager at Chicago, will continue in charge of other off-line agencies.

Robert M. Gilmore, whose promotion to assistant to the vice-president in charge of system passenger traffic of the Southern

Robert M. Gilmore

Pacific, with headquarters a San Francisco, was reported in the *Railway Age* of May 30, was born at San Francisco on September 17, 1899, and entered railway service on October 9, 1916, as an office boy and messenger on the Southern Pacific at San Francisco, later advancing successively to ticket assorter, ticket clerk and interline passenger rate and division clerk in the office of passenger accounts. On January 1, 1926, he was transferred to the general passenger office and worked on refund and exchanges, interline and local tariff compilations, passenger train service and as a train inspector. In 1939 Mr. Gilmore was appointed special passenger representative, handling special solicitation and military traffic assignments, which position he held until his recent promotion.

Fred E. Watson, whose promotion to general passenger agent for the Central district of the Southern Pacific, Pacific lines, with headquarters at San Francisco, Cal., was reported in the *Railway Age* of May 30, was born at Kirkwood, Ill., on December 19, 1885, and entered railway service in 1903 as a telegraph operator on the Chicago & North Western, later going with the Union Pacific. In 1909 he became an operator and agent on the Los Angeles division of the Southern Pacific, later serving as agent at Pasadena, Cal., city passenger agent at Los Angeles, Cal., and commercial agent at Pasadena. During World War I, Mr. Watson served as a

Fred E. Watson

first lieutenant with the Transportation Corps of the U. S. Army, returning to the Southern Pacific in 1919 as assistant general passenger agent at Los Angeles. In 1923 he was advanced to general passenger agent at Los Angeles and in 1930 he was appointed assistant general passenger traffic manager, with headquarters at San Francisco. Mr. Watson was appointed assistant to the vice-president in charge of system passenger traffic in 1933, which position he held until his recent promotion.

ENGINEERING & SIGNALING

George F. Drummond, assistant architect of the Canadian National, has been appointed assistant chief architect, with headquarters at Montreal, Que.

Ober A. Kobs, general agent, freight department on the Northern Pacific at Fargo, N. D., has been promoted to assistant general freight agent, with headquarters at St. Paul, Minn., succeeding **W. J. Luchsinger,** who has been transferred to Duluth, Minn. Mr. Luchsinger replaces **Otto Kopp,** whose promotion to general freight agent at Seattle, Wash., was reported in the *Railway Age* of May 30. **R. C. Murphy,** traveling freight agent at Grand Forks, N. D., has been advanced to general agent, freight department, at Fargo, relieving Mr. Kobs.

MECHANICAL

T. E. Anderson, general foreman of the car department of the Texas & Pacific at Marshall, Tex., has been appointed general car inspector, with headquarters at Dallas, Tex., temporarily in place of **J. D. Clyde, Sr.**

T. C. Shortt, master mechanic of the Nickel Plate district of the New York, Chicago & St. Louis, with headquarters at Conneaut, Ohio, has been promoted to superintendent of motive power, with headquarters at Cleveland, Ohio, succeeding **T. C. Baldwin,** who retired from active service on May 31.

C. F. Deno, master mechanic of the Manitoba district of the Canadian Pacific, has been promoted to assistant superintendent of motive power, Western lines, with headquarters as before at Winnipeg, Man., succeeding **N. R. Crump,** whose promotion to assistant to the vice-president at Montreal, Que., was reported in the *Railway Age* of May 23. The report in the same issue of the *Railway Age* that Mr. Deno had been promoted to chief of motive power for Western Canada was incorrect.

PURCHASES AND STORES

J. E. Thraff, district storekeeper on the Great Northern at Great Falls, Mont., has been promoted to assistant general storekeeper, a newly created position, with headquarters at St. Paul, Minn.

Harry B. Nordstrom, whose promotion to assistant purchasing agent on the Great Northern, with headquarters at St. Paul, Minn., was reported in the *Railway Age* of May 23, was born at Stillwater, Minn., on May 25, 1898, and entered rail-

Harry B. Nordstrom

way service on May 14, 1914, as an office boy in the purchasing department of the Great Northern at St. Paul. Since that time Mr. Nordstrom has served in all the clerical positions in the department, including those of chief clerk and lumber and fuel agent. On September 15, 1926, he was promoted to assistant to the purchasing agent, which position he held until his recent promotion, effective May 14.

J. E. McMahon, assistant purchasing agent and general storekeeper of the Chicago, St. Paul, Minneapolis & Omaha, with headquarters at St. Paul, Minn., has been appointed purchasing and stores agent, a change of title.

Clifford G. Allen, purchasing agent of the Akron, Canton & Youngstown and the Northern Ohio, with headquarters at Akron, Ohio, has been promoted to chief purchases and stores officer, a change of title.

Arthur D. Sturley, whose promotion to assistant purchasing agent on the Great Northern, with headquarters at St. Paul, Minn., was reported in the *Railway Age* of May 23, was born at St. Paul on De-

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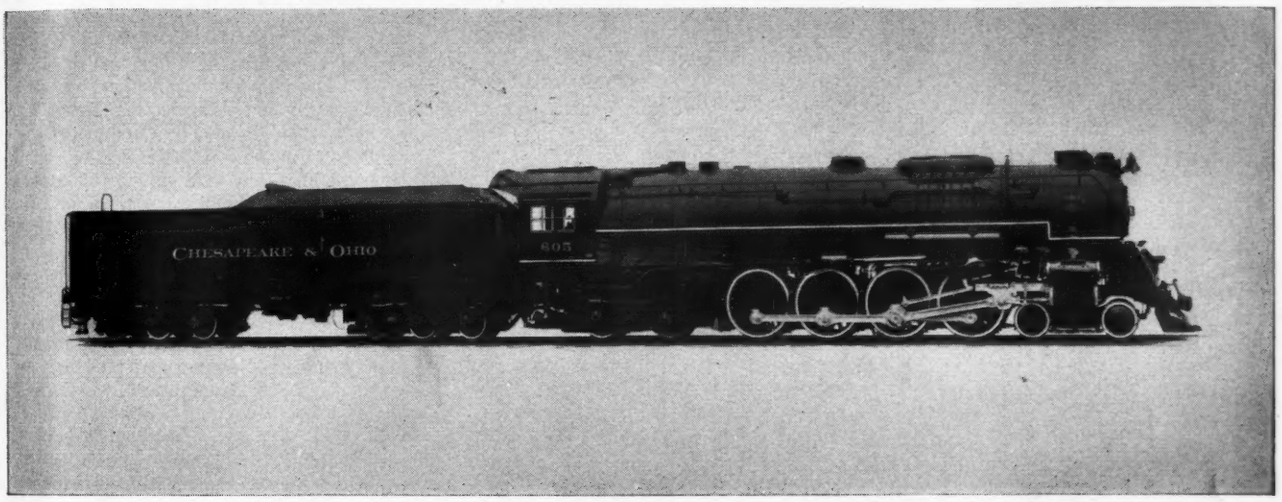
★ ★ ★ ★ TIME and TONNAGE ★ ★ ★ ★

are the important considerations



Maximum gross-ton-miles per-train-hour are becoming increasingly important as America's war effort slips into high gear. The only power that can meet today's demands for heavier loads moved at steadily reduced running time is . . . MODERN SUPER POWER.

Lima has pioneered in the construction of this type of steam power, and is prepared to build locomotives of the latest design to help you to . . . "KEEP 'EM ROLLING."

LIMA LOCOMOTIVE WORKS LIMA LOCOMOTIVE WORKS INCORPORATED **INCORPORATED, LIMA, OHIO**

cember 17, 1885, and entered railway service on August 23, 1903, in the office of the auditor of freight receipts of the Northern Pacific. On April 23, 1906, he left railway service for other employment and on November 12, 1906, he went with the Great Northern in the purchasing department at

Arthur D. Sturley

St. Paul. On May 1, 1917, he was promoted to assistant chief clerk and on February 1, 1919, he was advanced to chief clerk. Mr. Sturley was appointed stationery buyer on April 7, 1920, which position he held until his recent promotion effective May 14.

OBITUARY

Arthur M. Crawford, assistant general passenger agent on the Southern at Memphis, Tenn., died at the Baptist hospital in that city on May 30, following an operation.

Frank L. Pickering, general agent, passenger department, of the Southern Pacific, with headquarters at New York, died on June 9 at his home in that city at the age of 65.

William Calmell Sloan, assistant vice-president and general manager of the Western lines of the Northern Pacific, with headquarters at Seattle, Wash., died on June 6 at San Bernardino, Cal., while on a leave of absence because of poor health. Mr. Sloan was born at Brooklyn, N. Y., on July 9, 1886, and attended Cornell University. He entered railway service in February, 1907, as an inspector on the New York tunnels of the Pennsylvania and the following year he became connected with the Brooklyn Rapid Transit Company. On April 1, 1909, he entered the service of the engineering department of the Northern Pacific as an inspector and later was promoted successively to bridge supervisor and roadmaster. In 1915, he was advanced to trainmaster at Forsyth, Mont., and two years later he was further promoted to division superintendent at Pasco, Wash. Shortly thereafter, Mr. Sloan entered the service of the United States Army and served overseas as a captain. He returned to the Northern Pacific in 1919 as superintendent of the Rocky Mountain division, and was later transferred successively to the Pasco, Yellowstone and Lake Superior divisions. In July, 1927, he was appointed assistant to the operating vice-president and on July 15, 1929, he was advanced to general manager of the lines east of Paradise, Mont. Mr. Sloan was appointed general manager of the system, with headquarters at St. Paul, Minn., and Seattle, Wash., in August, 1931, and in February, 1940, he was appointed assistant vice-president and general manager of the lines west of Livingston, Mont., with headquarters at Seattle.

John A. Clancey, general manager of the Grand Trunk Western, with headquarters at Detroit, Mich., died suddenly in his office at Detroit on June 4. Mr. Clancey was born at Walkerton, Ont., on June 8, 1884, and entered railway service with the Canadian National on June 2, 1901, as a messenger in the transportation department at Toronto, Ont., and later served in various clerical positions at that point. In September, 1902, he was sent to Durand, Mich., on the Grand Trunk Western (part of the Canadian National), as a stenographer in the bridge and building department. In the following year he was transferred to the transportation department, where he held various positions until July,

John A. Clancey

1910, when he was appointed cashier and supervisor of the Michigan Car Demurrage bureau. In January, 1911, he returned to the transportation department of the Grand Trunk Western, serving successively as car distributor, traveling car service agent, assistant superintendent of terminals at Detroit, chief clerk to the general superintendent at Chicago, division agent of Western lines at Chicago and trainmaster at various points. On October 1, 1928, he was further promoted to superintendent of transportation, with headquarters at Detroit, and on October 1, 1932, he was appointed superintendent of the Detroit division. Mr. Clancey was advanced to general superintendent of transportation with headquarters at Detroit, on June 1, 1936, and on January 1, 1939, he was promoted to general superintendent. He was advanced to general manager on August 1, 1939.

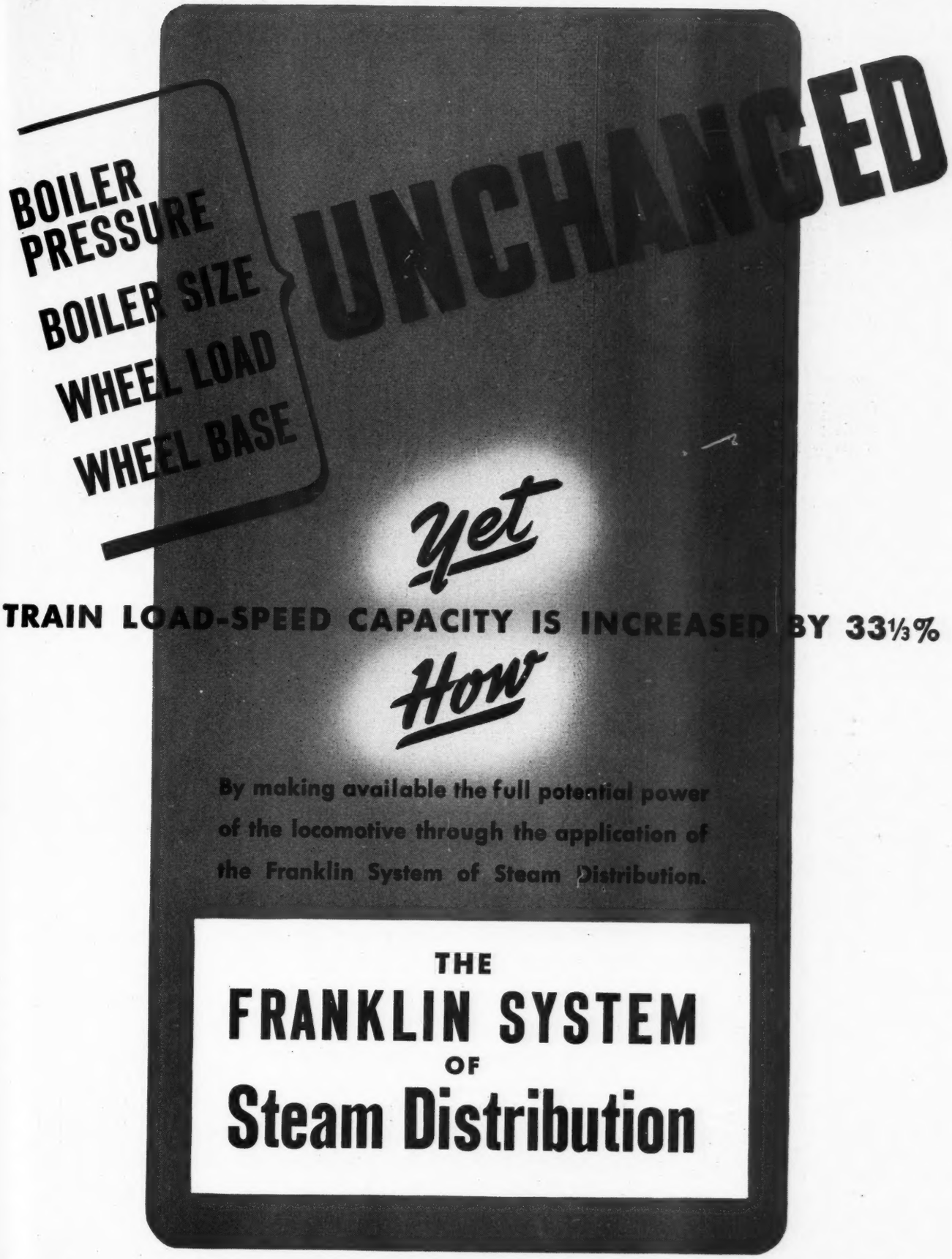
Frederick W. Fratt, railroad construction engineer, died at Kansas City, Mo., on May 15. Mr. Fratt was born at Racine, Wis., on July 10, 1859, and attended the University of Wisconsin. He served on construction work for the Chicago & North Western in Minnesota, South Dakota and Iowa and then as resident engineer for the Wisconsin Central (now part of the Minneapolis, St. Paul & Sault Ste. Marie), later becoming chief engineer. In July, 1892, he went with the Missouri-Kansas-Texas on construction work, later becoming chief engineer in charge of the construction of various lines. In 1904 he supervised the construction of the M-K-T terminals at Kansas City, and he was the builder of the Armour-Swift-Burlington bridge at that point.

Charles Sterling Millard, vice-president and general manager for the New York Central system at Cincinnati, Ohio, died in Holmes hospital in that city on June 5 after an illness of four days following a heart attack Mr. Millard was born at Louisville, Ky., on May 3, 1874, and graduated from the Sheffield Scientific School of Yale University in 1896. In the same year he became a rodman on the Pennsylvania, and in 1897 he was appointed an assistant in the engineering department of the Peoria & Easter (part of the New York Central system), being advanced to assistant engineer in 1898. Following several months' service in the Spanish-American war, Mr. Millard returned to the Peoria & Eastern as engineer maintenance of way in October, 1899. In 1901 he was appointed second assistant engineer of the Delaware, Lackawanna & Western, returning to the Middle West as engineer maintenance of way, of the Peoria & Pekin Union later in the same year. From 1902 to 1924 he served successively as assistant engineer on the Illinois Central at Memphis, Tenn., and as engineer maintenance of way, engineer of track and roadway, superintendent of the Michigan and of the Chicago division of the Cleveland, Cincinnati, Chicago & St. Louis (part of the New York Central system), superintendent of the Peoria & Eastern, and superintendent of the St. Louis division and assistant

Charles Sterling Millard

general superintendent of the Big Four. Mr. Millard was promoted to general manager of the Big Four in April, 1924, and on December 15, 1930, he was elected vice-president and general manager. Mr. Millard was a life member of the American Society of Civil Engineers.

Table of Revenues and Expenses begins next left-hand page



FRANKLIN RAILWAY SUPPLY COMPANY, INC. NEW YORK CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF APRIL AND FOUR MONTHS OF CALENDAR YEAR 1942

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1942	Net railway operating income 1941
Akron, Canton & Youngstown	April	171	$264,644	$55	$274,734	$40,821	$30,653	$15,242	$79,094	$176,715	64.3	$98,019	$69,715	$58,135	$56,213
	4 mos.	171	1,010,070	245	1,048,381	148,365	110,861	61,732	317,708	683,771	65.2	364,610	258,541	204,601	241,125
Alton	April	959	1,653,612	354,516	2,239,838	271,459	358,811	48,819	938,544	1,711,916	76.4	527,922	406,001	192,270	54,121
	4 mos.	959	6,214,882	1,266,683	8,363,740	817,382	1,214,445	197,676	3,477,021	6,078,063	72.7	2,285,677	1,804,586	1,024,944	351,439
Atchison, Topeka & Santa Fe System	April	13,362	20,629,158	3,042,208	25,613,753	2,842,370	4,344,434	493,250	7,574,170	15,704,067	61.3	9,909,686	4,621,985	4,578,086	2,337,057
	4 mos.	13,366	75,381,572	10,780,216	92,831,400	9,874,860	16,634,485	1,963,877	28,862,679	59,118,396	63.7	33,713,004	15,899,416	16,054,128	7,635,478
Atlanta & West Point	April	93	214,697	60,287	306,480	22,875	34,673	8,933	97,613	179,569	58.6	126,911	68,769	47,692	15,510
	4 mos.	93	732,842	216,312	1,063,043	97,869	137,561	36,265	387,784	714,044	67.2	348,999	184,448	113,455	60,391
Western of Alabama	April	133	241,493	61,375	331,196	27,431	41,347	8,848	94,621	186,311	56.3	144,885	72,629	71,043	16,558
	4 mos.	133	815,422	222,162	1,133,454	107,492	166,582	35,757	366,799	726,095	64.1	407,359	202,060	183,910	70,252
Atlanta, Birmingham & Coast	April	639	370,969	34,514	432,762	54,606	64,922	26,971	179,975	345,013	79.7	87,749	61,006	29,063	—3,769
	4 mos.	639	1,389,416	142,601	1,623,881	205,709	247,580	105,701	705,107	1,333,837	82.1	290,044	183,475	49,925	13,460
Atlantic Coast Line	April	5,007	6,885,041	2,164,080	9,621,226	648,736	1,379,369	172,477	2,702,413	5,205,067	54.1	4,416,159	2,916,159	2,553,340	1,282,103
	4 mos.	5,009	23,569,734	6,971,822	32,757,061	2,395,217	5,281,436	766,559	10,474,649	20,136,958	61.5	12,620,103	8,765,103	7,683,443	4,902,925
Charleston & Western Carolina	April	343	327,283	7,352	341,762	33,128	48,909	10,186	101,258	199,122	58.3	142,640	97,640	92,538	60,057
	4 mos.	343	1,205,913	36,373	1,268,341	132,314	183,059	40,678	389,613	771,270	60.8	497,071	327,071	312,535	284,363
Baltimore & Ohio	April	6,250	21,386,595	1,870,388	24,283,734	2,050,326	5,162,978	463,212	8,014,705	16,455,656	67.8	7,828,078	5,621,198	4,924,243	1,296,101
	4 mos.	6,267	77,632,432	6,275,814	88,045,272	7,151,133	20,533,882	1,799,405	30,941,473	63,418,549	72.0	24,626,723	17,400,846	15,717,738	11,612,773
Staten Island Rapid Transit	April	24	108,123	77,265	194,405	16,168	25,900	1,487	90,491	148,141	76.2	46,264	19,116	8,047	—11,756
	4 mos.	24	364,391	292,531	688,963	53,147	104,193	5,102	363,381	578,065	83.9	110,898	2,127	—38,223	—95,292
Bangor & Aroostook	April	603	747,954	35,796	807,045	94,613	89,437	5,240	169,540	387,654	48.0	419,391	200,887	200,642	189,245
	4 mos.	603	2,588,241	130,517	2,809,053	366,173	377,176	23,127	692,901	1,565,404	55.7	1,243,649	728,763	740,987	702,843
Bessemer & Lake Erie	April	214	1,792,859	775	1,808,459	171,306	491,639	16,367	292,969	1,010,865	55.9	797,594	708,599	790,915	462,422
	4 mos.	214	4,606,313	3,178	4,662,424	572,943	2,473,400	57,339	1,026,100	4,288,519	92.0	373,905	157,750	554,513	1,269,765
Boston & Maine	April	1,865	5,011,299	967,855	6,528,504	708,976	934,908	66,896	2,115,880	4,007,725	61.4	2,520,779	1,599,957	1,264,156	813,545
	4 mos.	1,866	17,660,259	3,622,974	23,381,081	2,714,225	3,588,057	278,310	8,482,636	15,792,655	67.5	7,588,426	4,917,187	3,649,199	2,835,726
Burlington, Rock Island	April	251	52,773	33,722	95,963	17,328	14,995	2,890	54,524	101,519	105.8	—5,556	—15,274	—23,845	—10,070
	4 mos.	251	340,552	120,868	495,202	81,859	64,321	9,815	221,274	422,332	85.3	72,870	34,637	4,317	—57,709
Cambria & Indiana	April	37	181,523	.....	181,596	10,568	60,772	479	18,653	97,548	53.72	84,048	—549	68,125	—60,613
	4 mos.	37	697,373	.....	697,652	30,953	236,465	2,051	70,798	365,938	52.45	331,714	10,683	298,675	249,555
Canadian Pacific Lines in Maine	April	234	464,489	65,291	547,336	57,279	67,375	6,697	161,121	299,709	54.8	247,627	231,083	203,177	152,847
	4 mos.	234	1,679,231	177,514	1,923,143	177,510	240,705	27,119	588,824	1,061,148	55.2	861,995	798,202	686,797	562,161
Canadian Pacific Lines in Vermont	April	90	99,727	7,011	117,130	25,547	20,388	2,426	76,740	128,627	109.8	—11,497	—19,010	—43,259	—32,046
	4 mos.	90	368,895	30,776	442,461	81,952	95,908	9,686	318,751	520,146	117.6	—77,685	—107,722	—203,791	—111,434
Central of Georgia	April	1,815	1,697,374	300,557	2,178,187	249,950	373,139	59,991	792,761	1,576,967	72.4	601,220	462,346	461,978	364,974
	4 mos.	1,815	6,267,470	1,096,885	8,090,367	931,246	1,343,057	241,489	3,175,364	6,076,906	75.1	2,013,461	1,461,382	1,400,514	1,037,866
Central of New Jersey	April	661	4,250,139	470,196	4,977,461	390,652	776,670	48,631	1,826,705	3,152,434	63.3	1,825,027	1,315,052	998,303	—107,086
	4 mos.	661	14,434,156	1,748,536	17,142,622	1,592,906	3,063,323	193,122	6,935,472	12,210,806	71.2	4,931,816	3,213,431	2,074,756	426,220
Central Vermont	April	422	584,559	44,000	670,943	82,139	97,413	11,077	255,116	467,780	69.7	203,163	173,066	132,932	152,629
	4 mos.	422	2,189,499	174,000	2,513,755	308,248	407,090	43,818	1,055,365	1,902,429	75.7	611,326	491,518	326,394	372,882
Chesapeake & Ohio	April	3,124	14,081,565	703,359	15,318,455	1,372,867	2,521,197	218,744	3,368,813	7,824,499	51.1	7,493,956	2,276,928	2,517,285	—987,436
	4 mos.	3,124	47,343,632	2,220,983	51,151,251	5,476,796	9,588,134	888,026	12,790,587	30,134,705	58.9	21,016,546	8,887,612	9,865,552	9,281,038
Chicago & Eastern Illinois	April	925	1,219,485	259,151	1,643,924	192,647	341,028	61,316	610,417	1,278,376	77.8	365,548	235,548	120,418	34,645
	4 mos.	925	4,981,717	945,012	6,583,185	689,016	1,164,856	242,877	2,542,099	4,937,886	75.0	1,645,299	1,125,299	654,599	709,867
Chicago & Illinois Midland	April	131	482,275	756	506,921	53,296	84,789	22,321	115,322	298,594	58.9	208,327	58,569	54,574	2,212
	4 mos.	131	1,938,340	2,898	2,023,177	201,023	328,893	90,177	498,654	1,207,390	59.7	815,787	306,655	269,735	306,816
Chicago & North Western	April	8,265	8,371,175	1,326,512	10,695,381	1,226,735	1,941,336	199,633	3,642,329	7,402,206	69.2	3,293,175	1,884,365	1,771,068	1,322,078
	4 mos.	8,265	30,266,014	4,852,886	38,971,046	4,595,960	7,899,006	779,831	14,798,783	29,598,835	76.0	9,372,211	5,852,193	5,014,703	3,716,759
Chicago, Burlington & Quincy	April	9,085	9,033,190	1,080,216	11,258,435	1,817,000	1,817,274	265,777	3,507,563	7,805,002	69.3	3,453,433	1,768,271	1,674,679	673,668
	4 mos.	9,093	35,837,542	4,190,167	44,267,456	4,281,887	7,110,696	1,015,604	14,473,822	28,411,894	64.2	15,855,562	8,255,507	7,510,673	5,704,911
Chicago Great Western	April	1,502	1,716,235	88,047	1,936,405	210,690	278,191	62,300	681,465	1,295,565	66.9	640,840	426,019	249,142	191,155
	4 mos.	1,502	6,855,441	352,703	7,723,131	895,146	1,097,413	248,897	2,857,270	5,339,086	69.1	2,384,045	1,613,305	859,156	743,968
Chicago, Indianapolis & Louisville	April	549	807,852	60,889	936,332	86,394	168,767	30,127	302,722	624,790	66.7	311,542	263,764	198,774	88,158
	4 mos.	549	3,253,898	187,803	3,705,555	317,103	670,861	118,189	1,243,303	2,494,215	67.3	1,211,340	1,013,216	721,456	468,941

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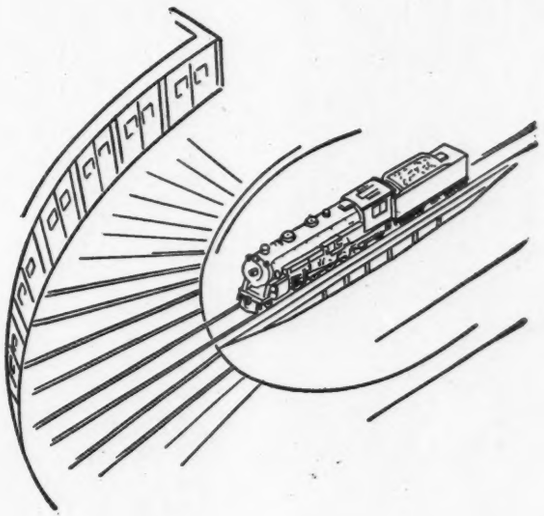

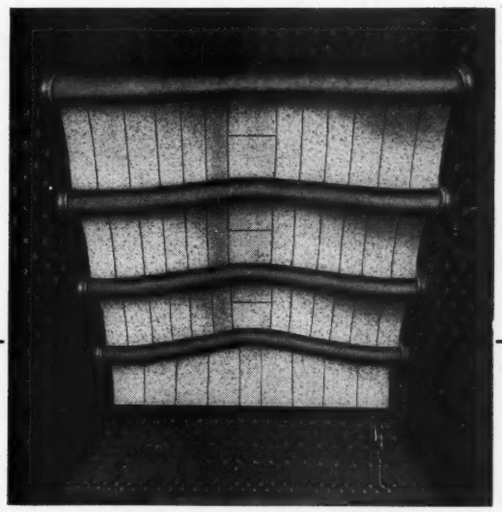

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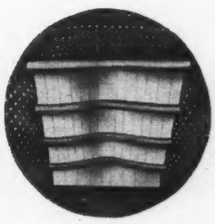

AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.

Locomotive Combustion Specialists

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF APRIL AND FOUR MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues			Operating expenses					Operating ratio	Net from railway operation	Operating income	Net railway operating income	
			Freight	Passenger	Total (inc. misc.)	Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total				1942	1941
Chicago, Milwaukee, St. Paul & Pacific	April	10,821	$10,922,782	$1,002,359	$13,162,980	$2,127,456	$2,085,013	$225,354	$4,435,318	$9,348,419	71.0	$3,814,561	$2,249,561	$1,931,700	$1,666,237
	4 mos.	10,821	43,238,752	3,776,654	51,357,239	5,787,203	8,117,977	927,014	18,193,928	34,962,491	68.1	16,394,748	10,752,748	9,450,901	7,753,988
Chicago, Rock Island & Pacific	April	7,925	7,509,875	1,508,904	9,754,046	1,231,814	1,587,996	289,513	3,251,490	6,798,210	69.7	2,955,836	2,415,294	2,029,990	1,362,848
	4 mos.	7,931	28,847,639	5,397,454	36,874,220	3,712,947	6,081,774	1,151,110	13,032,151	25,707,998	69.7	11,166,222	9,043,132	7,679,397	4,741,049
Chicago, St. Paul, Minneapolis & Omaha	April	1,629	1,399,267	173,662	1,695,056	249,484	306,757	40,750	741,782	1,409,349	83.1	285,707	160,819	51,775	8,135
	4 mos.	1,629	5,868,055	645,818	6,977,898	785,613	1,264,742	165,186	3,169,275	5,667,271	81.2	1,310,627	811,275	388,373	50,456
Clinchfield Railroad	April	308	997,846	5,131	1,009,797	55,095	150,618	21,156	188,917	434,824	43.1	574,973	470,585	474,891	300,767
	4 mos.	308	3,877,252	17,615	3,919,996	206,784	589,747	84,462	787,816	1,745,861	44.5	2,174,135	1,756,083	1,763,695	1,739,862
Colorado & Southern	April	755	596,102	114,776	774,513	74,531	126,392	14,570	268,217	515,611	66.6	258,902	195,538	178,866	39,739
	4 mos.	755	2,230,225	421,161	2,891,950	216,813	541,295	59,443	1,074,492	2,018,512	69.8	873,438	639,934	550,510	301,070
Fort Worth & Denver City	April	804	368,854	175,069	649,617	86,249	118,357	21,522	201,235	468,627	72.1	180,990	142,127	122,087	26,338
	4 mos.	804	1,651,286	622,612	2,681,724	293,343	410,482	86,528	838,636	1,788,080	66.7	893,644	739,933	629,264	152,421
Colorado & Wyoming	April	42	90,055	.....	145,379	13,762	12,755	840	51,733	83,512	57.4	61,867	31,200	30,450	36,463
	4 mos.	42	356,051	.....	556,899	41,585	50,556	3,431	205,613	318,645	57.2	248,254	121,161	119,970	158,586
Columbus & Greenville	April	168	97,673	2,608	107,054	38,379	20,068	4,831	37,702	113,403	105.9	—6,349	—12,506	—11,186	14,216
	4 mos.	168	375,402	11,747	412,199	92,541	73,501	18,891	142,880	376,144	91.3	36,055	—13,359	—7,582	40,879
Delaware & Hudson	April	849	3,719,124	88,177	3,891,674	366,151	745,661	45,413	1,220,951	2,476,995	63.6	1,414,679	849,833	762,856	285,625
	4 mos.	849	13,339,517	390,989	14,052,601	1,285,360	2,770,968	178,298	4,663,659	9,312,826	66.3	4,739,775	2,982,591	2,765,029	1,959,906
Delaware, Lackawanna & Western	April	985	4,849,010	671,306	6,097,095	467,971	875,749	109,261	2,233,021	3,847,272	63.1	2,249,823	1,216,823	1,175,277	709,841
	4 mos.	985	17,429,418	2,503,729	21,956,863	1,633,676	3,504,773	442,390	9,096,035	15,291,111	69.6	6,665,752	3,258,752	3,057,842	3,081,756
Denver & Rio Grande Western	April	2,430	3,154,223	263,856	3,591,398	291,021	742,779	91,116	1,103,640	2,342,618	65.2	1,248,780	1,017,871	1,000,364	—64,432
	4 mos.	2,431	11,473,881	894,544	12,988,011	910,427	2,715,806	354,886	4,539,373	8,976,409	69.1	4,011,602	3,101,563	2,974,805	293,994
Denver & Salt Lake	April	232	107,616	3,420	118,830	35,026	41,435	2,651	53,661	142,735	120.1	—23,905	—48,903	2,790	—17,254
	4 mos.	232	698,641	21,977	755,621	87,971	177,055	10,847	273,492	588,902	77.9	166,719	66,064	257,898	201,826
Detroit & Mackinac	April	242	60,016	2,535	72,309	12,409	11,914	694	26,335	54,812	75.8	17,497	13,719	10,364	353
	4 mos.	242	228,442	12,686	274,507	35,756	48,394	2,907	107,481	207,809	75.7	66,698	52,396	35,487	—17,025
Detroit & Toledo Shore Line	April	50	363,114	.....	365,301	36,082	26,311	9,440	94,703	174,665	47.8	190,636	110,591	55,155	27,588
	4 mos.	50	1,520,813	.....	1,525,469	102,079	107,914	36,877	400,437	680,065	44.6	845,404	555,254	311,198	393,685
Detroit, Toledo & Ironton	April	465	613,426	390	645,139	75,932	104,385	13,935	171,639	389,621	60.4	255,518	143,560	136,226	127,443
	4 mos.	465	2,903,177	1,349	3,040,849	307,152	457,402	54,484	739,779	1,651,499	54.3	1,389,350	826,862	741,305	1,079,925
Duluth, Missabe & Iron Range	April	543	2,910,330	1,278	3,356,718	310,310	337,442	4,575	601,106	1,288,765	38.4	2,067,953	1,828,760	1,828,245	1,251,091
	4 mos.	542	3,763,438	5,041	4,347,640	935,316	1,320,399	16,664	1,336,144	3,750,339	86.3	597,301	141,154	119,471	—1,145,235
Duluth, Winnipeg & Pacific	April	175	196,000	900	200,000	33,007	27,434	2,041	62,667	128,407	64.2	71,593	56,762	34,860	—16,576
	4 mos.	175	734,700	3,600	751,200	115,895	106,485	8,058	275,896	519,676	69.2	231,524	174,155	83,887	12,199
Elgin, Joliet & Eastern	April	392	2,490,161	13	2,791,317	222,349	539,752	16,525	907,732	1,727,871	61.9	1,063,446	525,600	384,437	233,281
	4 mos.	392	9,453,277	56	10,625,223	729,799	2,040,944	66,160	3,756,440	6,830,368	64.3	3,794,855	1,815,767	1,248,342	2,101,155
Erie	April	2,251	9,859,468	654,566	11,188,337	1,015,404	1,788,062	199,846	3,649,147	6,967,648	62.3	4,220,689	2,544,400	2,165,903	1,366,203
	4 mos.	2,251	36,143,465	1,981,693	40,420,220	3,356,840	6,961,169	785,755	14,454,692	26,818,739	66.3	13,601,481	8,030,098	6,602,490	6,148,682
Florida East Coast	April	685	1,059,186	625,840	1,848,856	147,867	166,563	34,606	488,824	943,191	51.0	905,665	826,737	735,811	266,682
	4 mos.	685	3,635,600	2,125,507	6,370,322	531,937	726,521	138,061	2,002,985	3,777,683	59.3	2,592,639	2,276,724	2,033,584	1,402,928
Georgia Railroad	April	329	585,738	73,464	694,076	53,237	68,171	21,304	219,178	378,758	54.6	315,318	295,197	289,345	80,061
	4 mos.	329	2,136,576	253,837	2,517,581	197,863	286,232	84,695	881,519	1,515,921	60.2	1,001,660	922,134	897,350	350,770
Georgia & Florida	April	408	131,327	5,714	142,045	38,478	18,346	9,853	46,964	120,286	84.7	21,759	12,781	6,509	703
	4 mos.	408	553,690	14,435	588,605	141,700	80,092	39,987	196,362	483,870	82.2	104,735	68,676	31,781	—8,160
Grand Trunk Western	April	1,026	1,993,000	114,000	2,271,000	307,004	478,205	38,769	940,714	1,844,600	81.2	426,400	282,172	207,654	602,728
	4 mos.	1,026	8,042,000	432,000	9,079,000	1,228,528	1,868,098	153,261	3,862,816	7,422,416	81.8	1,656,584	1,079,817	784,339	2,239,975
Canadian National Lines in New England	April	172	176,300	3,700	194,200	47,325	18,681	2,641	91,369	171,236	88.2	22,964	4,444	—81,113	—82,766
	4 mos.	172	899,000	13,600	984,900	196,470	124,409	10,172	433,809	817,703	83.0	167,197	93,117	—190,590	—184,285
Great Northern	April	8,077	9,812,489	470,979	11,174,799	1,695,365	2,208,799	215,218	3,097,505	7,532,468	67.4	3,642,331	1,846,747	1,708,084	2,300,940
	4 mos.	8,077	34,541,244	1,769,207	39,076,449	5,124,950	8,455,437	790,042	12,379,582	27,955,545	71.5	11,120,904	5,515,392	5,000,195	3,110,783
Green Bay & Western	April	234	181,071	439	186,698	38,774	23,152	9,991	53,511	130,999	70.1	55,699	33,993	24,788	25,912
	4 mos.	234	710,084	1,160	731,739	121,848	85,410	36,675	221,502	487,465	66.6	244,274	167,251	129,937	110,674
Gulf & Ship Island	April	259	106,392	14,306	135,646	27,191	23,266	3,156	64,900	124,664	91.9	10,982	—3,464	—19,184	26,253
	4 mos.	259	529,683	67,209	648,784	95,272	90,779	12,330	261,700	485,393	74.8	163,391	91,503	38,166	30,654

Continued on next left-hand page

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- We can and will help you to keep them pulling . . . by assisting in your maintenance program.
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THE SUPERHEATER COMPANY

NEW YORK CHICAGO MONTREAL

EXHAUST STEAM INJECTORS • FEED WATER HEATERS • SUPERH[illegible]ERS
TANGENTIAL STEAM DRYERS • SUPERHEATER PYROMETERS • AMERICAN [illegible]TLES

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF APRIL AND FOUR MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1942	Net railway operating income 1941
Gulf, Mobile & Ohio	April	1,969	$2,428,138	$78,298	$2,596,791	$341,790	$401,052	$89,622	$688,522	$1,626,271	62.6	$970,520	$598,720	$437,164	$294,058
	4 mos.	1,969	8,302,731	256,088	8,894,636	1,309,942	1,461,791	355,704	2,620,381	6,148,767	69.1	2,745,869	1,769,869	1,233,652	1,110,540
Illinois Central	April	4,950	11,368,991	1,342,827	13,669,096	1,381,276	2,888,276	207,817	4,202,238	9,127,531	66.8	4,541,565	2,227,300	1,747,915	1,295,921
	4 mos.	4,950	42,750,602	5,216,182	51,099,379	4,870,155	10,965,370	891,543	16,750,155	35,238,579	69.0	15,860,800	8,130,130	7,218,324	7,938,318
Yazoo & Mississippi Valley	April	1,550	2,211,442	151,469	2,461,125	141,246	345,881	34,521	724,176	1,311,534	53.3	1,149,591	985,302	856,860	372,307
	4 mos.	1,550	8,424,258	522,409	9,308,728	563,845	1,174,357	144,879	2,812,615	4,947,551	53.1	4,361,177	3,712,921	3,347,450	724,441
Illinois Central System	April	6,500	13,580,433	1,494,296	16,130,221	1,522,522	3,234,157	242,338	4,926,414	10,439,065	64.7	5,691,156	3,207,548	2,609,689	1,677,140
	4 mos.	6,500	51,174,860	5,738,591	60,408,107	5,434,000	12,139,727	1,036,422	19,562,770	40,186,130	66.5	20,221,977	11,822,834	10,588,426	8,698,410
Illinois Terminal	April	476	553,125	100,172	719,277	57,980	85,313	20,280	209,224	447,204	62.17	272,073	179,344	155,536	110,837
	4 mos.	476	1,946,799	370,878	2,549,900	218,553	346,408	75,255	829,824	1,601,685	62.81	948,215	635,653	557,726	416,297
Kansas City Southern	April	880	2,130,984	148,620	2,476,211	276,705	349,164	57,555	614,674	1,375,422	55.5	1,100,789	792,789	620,717	354,950
	4 mos.	880	7,205,660	559,643	8,379,563	989,111	1,232,857	222,689	2,273,034	5,014,280	59.8	3,365,283	2,553,283	1,994,481	1,374,433
Kansas, Oklahoma & Gulf	April	328	200,518	606	203,807	28,206	14,750	9,861	56,224	119,940	58.8	83,867	55,528	36,132	52,421
	4 mos.	328	803,724	2,007	816,503	73,349	51,237	38,920	216,788	428,947	52.5	387,556	253,157	174,111	294,632
Lake Superior & Ishpeming	April	156	303,733	64	382,927	29,653	36,043	562	68,421	142,602	37.2	240,325	177,107	184,249	340,600
	4 mos.	156	510,695	261	626,132	95,271	164,142	2,404	161,796	455,534	72.8	170,598	30,338	56,419	141,686
Lehigh & Hudson River	April	96	293,510	7,198	301,519	24,838	25,696	4,606	80,886	143,249	47.5	158,270	81,170	49,844	19,742
	4 mos.	96	1,095,614	7,198	1,105,565	83,745	119,950	18,602	313,183	564,639	51.1	540,926	297,420	177,808	99,619
Lehigh & New England	April	190	535,807	.....	539,596	47,720	106,352	7,476	144,554	321,045	59.5	218,551	91,182	100,571	51,101
	4 mos.	190	1,776,279	.....	1,787,159	158,662	381,384	30,698	551,232	1,188,359	66.5	598,800	325,198	366,597	356,185
Lehigh Valley	April	1,263	5,503,816	237,951	6,099,029	585,204	916,501	108,108	2,180,095	3,955,265	64.9	2,143,764	1,387,570	1,049,458	699,827
	4 mos.	1,263	19,324,972	882,280	21,462,126	1,745,689	3,608,598	426,068	8,719,328	15,133,893	70.5	6,328,233	4,163,465	2,845,922	3,235,145
Louisiana & Arkansas	April	877	945,788	76,706	1,072,533	155,320	154,203	30,569	264,915	647,537	60.4	424,996	267,050	208,499	193,219
	4 mos.	877	3,600,446	231,472	4,000,216	577,485	526,147	127,558	1,035,133	2,438,607	61.0	1,561,609	1,009,245	791,594	706,400
Louisville & Nashville	April	4,798	11,500,624	1,495,603	13,700,367	1,181,465	2,254,985	193,396	3,772,383	7,771,518	56.7	5,928,849	1,391,277	1,552,707	1,091,569
	4 mos.	4,798	39,704,818	4,969,020	47,196,180	4,648,762	8,848,038	790,793	14,897,094	30,609,737	64.9	16,586,443	6,319,808	7,032,101	6,951,117
Maine Central	April	991	1,218,023	115,465	1,437,525	191,598	286,001	12,963	471,120	1,005,758	70.0	431,767	264,975	212,052	238,427
	4 mos.	991	4,944,359	484,636	5,809,981	707,427	1,066,824	50,312	1,998,770	3,995,242	68.8	1,814,739	1,123,723	902,888	972,838
Midland Valley	April	351	123,148	7	125,153	19,626	9,331	2,680	37,727	76,035	60.8	49,118	37,986	29,927	18,692
	4 mos.	351	461,319	21	470,619	53,240	37,360	10,478	148,093	276,697	58.8	193,922	145,403	101,006	112,100
Minneapolis & St. Louis	April	1,409	922,070	23,359	982,261	183,059	160,051	56,322	327,526	774,175	78.8	208,086	147,854	122,479	30,308
	4 mos.	1,409	4,001,197	82,233	4,238,656	523,179	603,510	225,270	1,387,711	2,918,527	68.9	1,320,129	1,096,392	953,670	259,622
Minneapolis, St. Paul & Sault Ste. Marie	April	4,277	2,810,941	92,308	3,134,276	469,254	616,156	68,794	1,180,936	2,442,569	77.9	691,707	384,157	316,884	332,724
	4 mos.	4,277	10,901,617	311,860	11,943,122	1,495,497	2,232,885	267,817	4,837,055	9,241,654	77.4	2,701,468	1,650,875	1,338,128	515,982
Duluth, South Shore & Atlantic	April	550	299,637	17,376	340,177	40,430	49,946	8,286	113,010	218,471	64.2	121,706	104,122	96,914	46,070
	4 mos.	550	1,062,045	48,896	1,176,300	155,429	209,241	33,411	448,636	873,539	74.3	302,761	233,280	207,209	78,953
Spokane International	April	152	95,831	1,565	104,481	13,861	8,219	2,681	30,792	59,956	57.6	44,125	35,492	30,201	5,863
	4 mos.	152	300,389	4,685	335,247	59,414	32,328	10,248	108,555	228,721	68.2	106,526	78,915	61,604	25,491
Mississippi Central	April	158	109,381	2,960	113,382	25,939	14,053	8,269	28,192	81,207	71.6	32,175	25,604	22,064	19,016
	4 mos.	158	421,544	10,774	436,128	88,516	52,739	32,246	108,348	299,941	58.8	136,187	111,239	88,422	85,591
Missouri & Arkansas	April	.....	124,791	1,768	132,829	21,410	14,226	8,122	53,819	102,639	77.3	30,190	24,873	13,384	3,428
	4 mos.	.....	463,114	6,618	504,273	91,731	55,494	30,576	197,344	395,206	78.4	109,067	88,853	39,884	39,296
Missouri-Illinois	April	172	251,590	241	253,085	32,479	31,292	3,506	62,172	132,369	52.3	120,716	70,434	56,905	42,077
	4 mos.	172	902,088	872	907,938	100,901	125,274	13,809	234,941	493,558	54,4	414,380	240,655	190,673	199,055
Missouri-Kansas-Texas Lines	April	3,293	3,462,977	528,630	4,303,632	652,223	639,489	122,708	1,351,591	2,934,352	68.2	1,369,280	1,066,780	741,752	201,447
	4 mos.	3,293	11,834,472	1,899,109	14,911,797	1,833,807	2,337,094	489,751	5,050,537	10,355,707	69.4	4,556,090	3,587,721	2,459,700	922,833
Missouri Pacific	April	7,135	10,549,763	1,051,333	12,538,759	1,379,665	1,809,884	278,300	3,789,889	7,618,492	60.8	4,920,267	4,317,658	3,721,895	1,316,902
	4 mos.	7,136	37,222,115	4,129,724	44,812,276	4,871,195	7,191,960	1,090,097	14,819,000	29,388,474	65,6	15,423,802	13,055,707	10,889,091	5,741,874
Gulf Coast Lines	April	1,772	2,292,826	100,642	2,496,842	280,911	238,574	51,121	654,029	1,291,886	51.7	1,204,956	1,110,779	867,090	476,717
	4 mos.	1,772	9,190,282	358,926	9,912,903	1,109,376	967,781	191,839	2,611,393	5,141,324	51.9	4,771,579	4,400,079	3,447,770	1,482,963
International Great Northern	April	1,155	1,298,784	149,618	1,588,162	216,799	245,998	31,034	617,046	1,176,488	74.1	411,674	339,949	223,959	54,895
	4 mos.	1,155	4,510,024	533,709	5,576,937	823,351	996,248	125,484	2,177,036	4,382,481	78.6	1,194,456	909,055	578,495	209,789
Monongahela	April	172	625,611	658	628,359	89,373	45,700	598	130,574	269,369	42.9	358,990	242,633	147,605	98,970
	4 mos.	172	2,310,521	2,339	2,321,386	235,683	181,022	2,239	533,525	965,241	41.6	1,356,145	891,982	509,404	315,235

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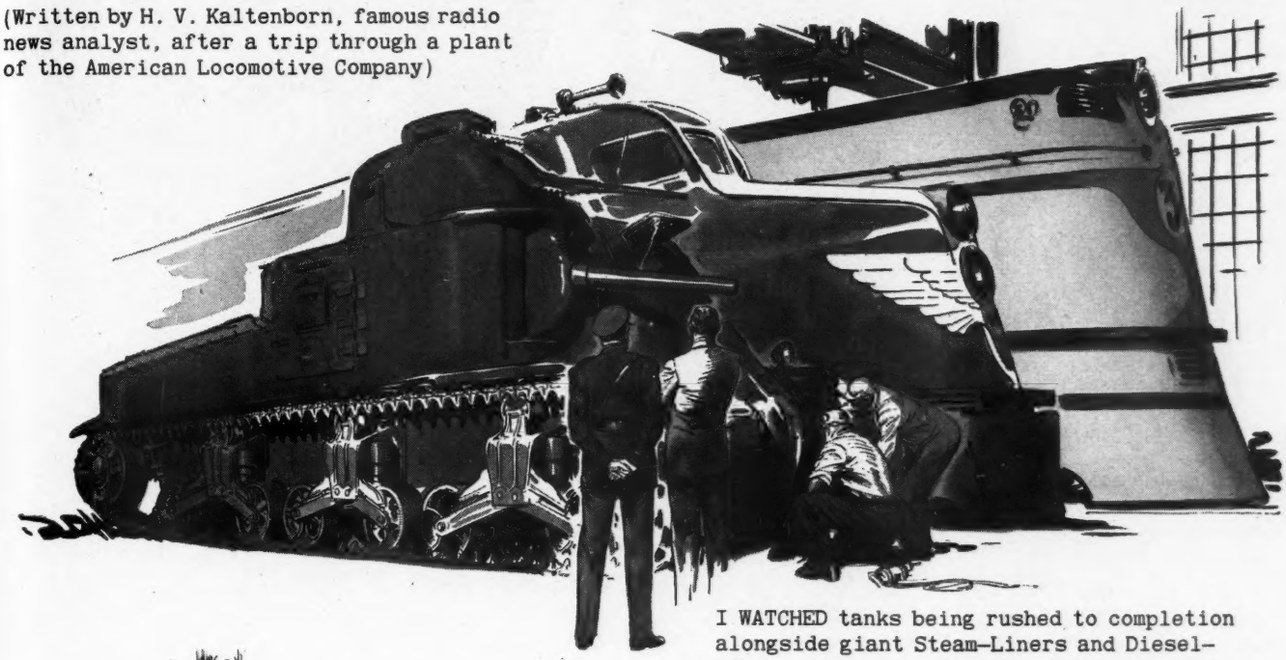
H. V. KALTENBORN says, "Here Is America's Answer"

(Written by H. V. Kaltenborn, famous radio news analyst, after a trip through a plant of the American Locomotive Company)



I WATCHED tanks being rushed to completion alongside giant Steam-Liners and Diesel-Liners. Here was power to attack, power to transport, power to supply...mobile power taking shape under skilled hands, with a hundred years of engineering know-how back of every man. And when they told me that dozens of other items of ordnance were keeping an army of these men busy, I felt that we were winning the battle of production at last.

I LOOKED IN on the gun carriage assembly. Those gun carriages cost twice as much as the actual gun, and are as difficult to manufacture as a tank. Like the tanks, they cost about a dollar a pound. And again, like the tanks, the production figures are good. At Fort Bragg, the other day, I learned what those carriages can do when the guns go into action.

I WISH you could have seen those new forges take a big red-hot ingot for a breech-block and knead it like dough! Then it's machined right here to watch-work accuracy... It's a heartening thing to see our America swing into victory tempo on the factory front.

I SAW big war heads being machined for those $15,000 torpedoes that carry 600 pounds of T.N.T. at 40 miles an hour. I saw a lot of them. In fact, everywhere I looked I saw an encouraging profusion and a cheering volume of production. But the best part of the story is the part I cannot tell. We'll tell that part to Hitler...first!

AMERICAN LOCOMOTIVE

MANUFACTURERS OF MOBILE POWER

STEAM, DIESEL AND ELECTRIC LOCOMOTIVES

MARINE DIESELS, TANKS, GUN CARRIAGES AND OTHER ORDNANCE

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF APRIL AND FOUR MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1942	Net railway operating income 1941
Montour	April	51	$242,942	.....	$243,691	$15,466	$49,813	$773	$55,749	$128,964	52.9	$114,727	$46,161	$82,591	—$22,346
	4 mos.	51	767,963	.....	773,825	48,642	204,624	3,274	222,658	508,174	65.7	265,651	74,842	218,139	168,450
Nashville, Chattanooga & St. Louis	April	1,111	1,648,021	217,485	2,038,502	246,249	393,434	73,635	727,217	1,515,345	74.3	523,157	302,165	297,540	267,959
	4 mos.	1,111	6,042,430	856,147	7,557,170	910,014	1,492,937	296,668	2,896,684	5,876,454	77.8	1,680,716	984,065	936,584	1,000,616
Nevada Northern	April	165	54,899	654	59,701	11,226	4,145	1,285	10,758	33,726	56.5	25,975	10,394	11,582	7,097
	4 mos.	165	219,054	2,489	233,547	37,068	14,121	4,899	39,885	120,936	51.8	112,611	44,079	49,808	59,219
New York Central	April	10,915	34,611,681	7,673,919	46,540,453	4,850,761	9,162,504	585,192	15,927,809	32,139,270	69.1	14,401,183	7,265,386	5,657,668	3,078,251
	4 mos.	10,916	126,001,242	27,401,887	168,530,949	17,133,365	35,494,344	2,368,324	63,207,499	124,766,792	74.0	43,764,157	23,199,513	17,983,274	17,408,282
Pittsburgh & Lake Erie	April	232	2,808,810	63,836	3,945,568	226,852	697,262	39,798	781,623	1,842,667	62.6	1,102,901	202,312	642,716	294,655
	4 mos.	232	9,671,812	242,102	10,184,773	885,959	3,114,796	160,847	3,111,838	7,665,248	75.3	2,519,525	191,345	1,860,953	1,852,314
New York, Chicago & St. Louis	April	1,688	6,852,749	257,120	7,227,832	535,979	855,028	131,626	2,032,958	3,700,380	51.2	3,527,452	1,085,737	510,979	995,592
	4 mos.	1,688	24,101,271	608,574	25,183,461	2,017,859	3,194,370	524,510	8,064,138	14,368,495	57.0	10,814,966	6,097,281	4,185,412	4,363,107
New York, New Haven & Hartford	April	1,844	7,867,747	3,605,490	12,382,450	1,174,876	1,668,993	138,016	3,813,724	7,309,744	59.0	5,072,706	3,572,706	2,664,786	1,247,663
	4 mos.	1,840	27,099,011	13,290,355	43,846,592	4,271,642	6,404,998	494,559	15,103,670	28,327,619	64.6	15,518,973	10,992,973	7,454,023	4,425,360
New York Connecting	April	21	296,164	.....	313,329	45,291	12,932	.....	43,155	103,104	32,9	210,225	164,225	204,382	229,614
	4 mos.	21	967,837	.....	1,019,585	105,368	45,835	.....	161,209	318,821	31.3	700,764	518,984	712,877	1,014,416
New York, Ontario & Western	April	547	631,789	7,140	684,931	61,708	116,995	21,085	303,424	524,727	76.6	160,204	129,400	83,347	—91,896
	4 mos.	547	2,039,772	27,793	2,228,795	230,508	427,941	76,877	1,143,937	1,963,341	88.1	265,454	145,392	—5,378	—259,415
New York, Susquehanna & Western	April	262	279,330	33,049	323,719	25,149	41,412	2,114	112,696	191,690	59.2	132,029	101,641	70,838	56,193
	4 mos.	262	1,073,947	130,614	1,272,453	98,508	136,436	9,068	516,681	804,320	63.2	468,133	346,293	213,231	205,812
Norfolk & Western	April	2,169	10,681,949	442,673	11,433,721	1,110,404	2,456,423	155,272	2,339,577	6,321,140	55.3	5,112,581	1,205,893	1,671,094	—392,374
	4 mos.	2,178	39,220,696	1,564,879	41,921,265	4,324,408	8,751,577	630,777	9,345,639	24,113,372	57.5	17,807,893	5,075,477	6,872,476	8,418,175
Norfolk Southern	April	733	549,618	15,681	584,861	100,728	66,081	29,264	177,842	399,567	68.3	185,294	137,618	115,015	41,586
	4 mos.	733	1,972,113	39,147	2,080,801	386,041	260,697	110,530	699,368	1,557,207	74.8	523,594	356,041	274,436	127,237
Northern Pacific	April	6,889	7,159,885	455,272	8,228,613	1,315,441	1,740,234	171,645	2,536,229	6,113,217	74.3	2,115,396	1,145,236	1,562,369	1,409,288
	4 mos.	6,889	27,082,115	1,783,990	31,245,404	4,058,834	6,874,467	668,118	10,418,731	23,410,222	74.9	7,835,182	4,218,207	5,843,470	3,893,667
Northwestern Pacific	April	345	351,817	10,224	381,921	85,769	55,804	2,527	136,365	288,267	75.5	93,654	71,936	55,638	—41,430
	4 mos.	345	1,193,490	30,145	1,293,468	380,375	205,358	10,326	532,611	1,157,912	89.5	135,556	45,208	—15,939	—194,677
Oklahoma City-Ada-Atoka	April	132	78,590	1	79,937	14,001	4,451	1,132	26,758	49,621	62.1	30,316	23,429	8,592	2,912
	4 mos.	132	329,745	1	335,968	46,159	14,064	3,835	86,453	160,432	47.8	175,536	120,003	75,326	—594
Pennsylvania	April	10,215	52,814,084	12,043,884	69,691,561	7,434,874	12,822,206	808,566	23,166,686	46,031,982	66.1	23,659,579	13,481,762	12,108,143	5,528,259
	4 mos.	10,215	178,914,306	42,242,511	237,843,914	25,159,130	50,064,935	3,172,293	89,051,958	17,544,391	73.4	63,299,523	28,194,224	23,671,629	24,594,407
Long Island	April	378	952,865	1,558,904	2,645,690	392,359	401,847	10,085	1,130,921	1,980,609	74.9	665,081	338,078	125,073	39,197
	4 mos.	378	3,385,654	5,703,320	9,588,243	1,260,416	1,594,706	37,683	4,543,882	7,653,917	79.8	1,934,326	904,304	157,136	96,837
Pennsylvania-Reading Seashore Lines	April	406	432,700	172,063	633,564	99,849	119,254	8,298	386,218	632,364	99.8	1,200	—95,654	—186,668	—202,631
	4 mos.	406	1,636,270	493,215	2,233,532	382,986	421,181	29,610	1,398,229	2,305,040	103.2	—71,508	—430,985	—768,963	—806,547
Pere Marquette	April	2,055	3,259,262	121,303	3,534,381	427,561	720,359	72,097	1,273,253	2,605,750	73.7	928,631	564,266	502,122	421,166
	4 mos.	2,055	11,921,164	446,229	12,907,993	1,630,470	2,824,958	277,577	4,996,373	10,178,974	78.9	2,729,019	1,591,883	1,500,439	2,089,563
Pittsburg & Shawmut	April	97	112,408	.....	113,056	9,525	19,450	2,033	26,456	62,001	54.8	51,055	47,907	42,978	—28,519
	4 mos.	97	365,933	.....	368,092	33,828	77,315	8,180	96,273	233,668	63.5	134,424	122,310	115,198	17,801
Pittsburgh & West Virginia	April	136	503,336	.....	520,036	87,786	102,392	19,204	121,579	354,755	68.2	165,281	120,492	123,658	92,574
	4 mos.	136	1,748,756	70	1,822,225	226,512	388,496	77,148	416,334	1,207,895	66.3	614,330	440,028	505,971	471,980
Pittsburg, Shawmut & Northern	April	190	136,945	.....	138,214	20,124	28,286	1,196	46,474	101,685	75.8	36,529	29,710	20,083	—27,800
	4 mos.	190	512,255	.....	519,093	75,525	115,283	4,665	186,219	403,950	77.8	115,143	87,743	53,793	85,481
Reading	April	1,429	8,420,301	462,915	9,296,661	610,908	1,632,811	75,769	2,813,117	5,301,425	57.0	3,995,236	2,439,136	2,103,147	938,737
	4 mos.	1,430	28,272,763	1,784,623	31,431,839	2,226,004	6,442,176	299,380	10,802,008	20,463,485	65.1	10,968,354	6,661,234	5,770,019	4,957,346
Richmond, Fredericksburg & Potomac	April	118	1,256,962	756,241	2,199,997	135,050	187,422	10,398	557,962	969,222	44.1	1,230,775	654,365	522,377	253,947
	4 mos.	118	4,177,358	2,739,264	7,590,405	443,554	773,553	42,014	2,123,531	3,680,088	48.5	3,910,317	2,074,142	1,607,722	900,957
Rutland	April	407	259,758	33,475	355,563	34,614	58,654	10,628	156,037	272,287	76.6	83,276	63,196	67,952	18,172
	4 mos.	407	958,817	138,728	1,331,133	139,235	257,031	41,669	628,312	1,111,491	83.5	219,642	140,812	153,350	—18,911
St. Louis-San Francisco	April	4,765	4,945,184	790,786	6,180,066	658,981	1,143,626	135,059	2,070,027	4,249,875	68.8	1,930,191	1,149,564	1,200,268	640,163
	4 mos.	4,766	18,246,945	2,748,714	22,704,486	2,509,695	4,346,702	525,630	8,196,640	16,511,910	72.7	6,192,576	4,462,933	4,769,917	3,124,860
St. Louis, San Francisco & Texas	April	159	224,558	2,677	232,308	34,607	22,403	9,641	76,492	148,907	64.1	83,401	72,941	47,943	15,620
	4 mos.	159	726,180	9,271	756,193	107,566	83,526	35,501	280,414	530,229	70.1	225,964	186,764	83,985	—3,899

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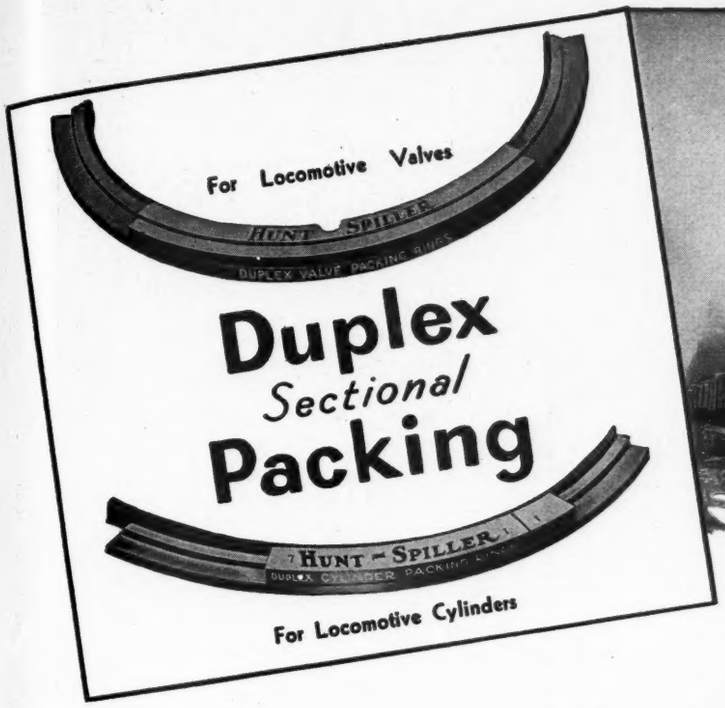

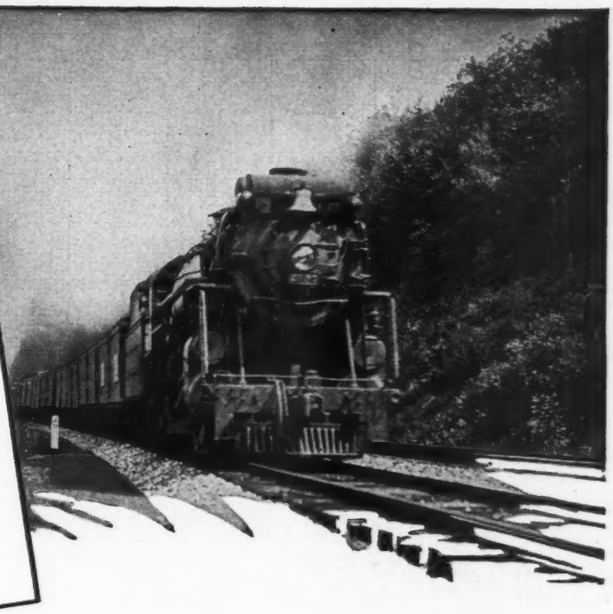

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Air Furnace

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF APRIL AND FOUR MONTHS OF CALENDAR YEAR 1942—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1942	Net railway operating income 1941
St. Louis Southwestern Lines	April	1,617	$3,121,871	$134,306	$3,349,348	$319,064	$348,032	$95,351	$936,117	$1,796,427	53.6	$1,552,921	$988,129	$678,229	$554,719
	4 mos.	1,617	11,624,064	533,905	12,520,041	1,256,090	1,394,869	382,259	3,533,587	6,947,832	55.5	5,572,209	3,473,540	2,607,836	2,185,060
Seaboard Air Line	April	4,305	6,083,733	1,822,889	8,399,440	805,199	1,185,365	203,290	2,548,790	5,068,456	60.3	3,330,984	2,905,984	2,567,999	654,310
	4 mos.	4,306	21,209,709	6,936,401	30,032,652	3,540,805	4,738,056	839,943	9,859,844	20,280,115	67.5	9,752,537	8,152,537	6,963,300	3,457,152
Southern Railway	April	6,519	12,554,549	1,875,018	15,323,445	1,658,256	2,548,640	191,022	4,391,964	9,250,069	60.4	6,073,376	3,332,142	3,082,300	2,318,581
	4 mos.	6,519	45,191,187	6,811,146	55,326,201	6,349,837	9,522,639	775,571	17,061,271	35,484,225	64.1	19,841,976	11,235,744	10,348,319	9,543,057
Alabama Great Southern	April	315	1,304,605	182,219	1,559,257	116,385	225,278	19,219	402,281	803,421	51.5	755,836	245,446	177,590	176,423
	4 mos.	315	4,245,791	620,183	5,140,877	439,758	821,437	79,270	1,443,019	2,931,347	57.0	2,209,530	840,542	684,841	651,942
Cincinnati, New Orleans & Texas Pacific	April	337	2,139,773	194,421	2,444,926	229,696	468,637	31,137	577,789	1,378,117	56.4	1,066,809	394,261	369,697	441,210
	4 mos.	337	7,413,710	926,087	8,746,237	921,109	1,810,535	125,657	2,149,146	5,284,729	60.4	3,461,508	1,600,331	1,618,090	1,953,312
Georgia Southern & Florida	April	398	236,392	66,266	330,676	50,289	48,811	2,733	108,403	222,077	67.2	108,599	43,568	19,742	11,700
	4 mos.	398	932,009	350,764	1,394,276	218,499	192,897	10,148	472,737	940,354	67.4	543,922	278,668	181,494	228,821
New Orleans & Northeastern	April	204	807,704	127,762	973,910	73,188	65,969	10,731	212,958	388,142	39.9	585,768	362,493	278,429	129,370
	4 mos.	204	2,424,290	397,136	2,963,939	244,287	226,864	40,648	756,040	1,361,085	45.9	1,602,854	848,372	596,857	382,830
Southern Pacific	April	8,559	21,070,618	3,718,206	26,895,777	2,245,957	4,659,025	438,492	8,469,998	17,195,534	63.9	9,700,243	6,221,065	5,049,855	3,378,076
	4 mos.	8,570	80,627,179	12,801,593	100,826,451	9,004,203	16,527,325	1,612,757	33,566,277	65,717,483	65.2	35,111,968	22,810,212	18,267,793	12,157,501
Southern Pacific Steamship Lines	April	.....	dr. 263	.....	1,333	394	294	.....	15,161	17,228	In excess	—15,895	—15,568	—15,568	15,245
	4 mos.	.....	6,741	159	8,791	78,511	cr. 126	137	62,516	154,223	of 999	—145,432	—145,583	—145,583	203,923
Texas & New Orleans	April	4,402	5,829,176	764,913	6,990,833	936,394	884,148	136,186	1,794,528	4,012,674	57.4	2,978,159	1,826,498	1,482,303	889,678
	4 mos.	4,409	22,495,272	2,536,711	26,485,001	3,428,843	3,504,514	557,560	7,306,356	15,808,994	59.7	10,676,007	6,718,293	5,297,213	3,200,295
Spokane, Portland & Seattle	April	937	1,356,199	40,190	1,470,359	200,395	129,395	11,444	427,012	807,834	54.9	662,525	569,970	461,948	181,678
	4 mos.	937	4,913,900	164,148	5,341,840	667,731	460,025	45,903	1,685,376	3,013,819	56.4	2,328,021	1,943,728	1,500,474	600,354
Tennessee Central	April	286	342,786	8,187	367,988	79,791	47,245	6,762	108,105	255,097	69.3	112,891	79,702	61,671	26,081
	4 mos.	286	1,119,093	30,049	1,211,831	264,592	181,265	28,832	410,520	935,579	77.2	276,252	193,244	136,707	133,497
Texas & Pacific	April	1,889	2,407,911	622,045	3,344,751	404,122	570,235	82,937	952,102	2,167,132	64.8	1,177,619	822,840	702,784	481,627
	4 mos.	1,889	9,686,312	2,220,227	13,037,672	1,579,196	2,275,811	331,416	3,943,235	8,768,382	67.3	4,269,290	2,942,675	2,495,814	2,011,083
Texas Mexican	April	162	149,450	255	171,881	22,577	13,224	4,110	42,270	89,834	52.3	82,047	74,592	63,213	35,129
	4 mos.	162	497,385	1,551	577,077	83,172	52,981	15,179	161,855	344,792	59.7	232,285	203,128	170,582	89,536
Toledo, Peoria & Western	April	239	194,855	.....	197,855	25,478	16,467	19,618	45,060	117,049	59.2	80,806	70,202	56,411	34,497
	4 mos.	239	611,138	8	621,955	93,186	67,611	68,402	253,104	543,891	87.4	78,064	25,790	—17,277	132,507
Union Pacific System	April	9,870	19,189,317	2,441,572	23,332,558	3,999,115	4,783,196	446,879	6,757,657	16,979,866	72.8	6,352,692	2,394,011	1,574,622	1,172,635
	4 mos.	9,870	70,162,884	8,837,221	85,036,522	11,004,392	17,461,858	1,675,541	27,356,994	61,322,828	72.1	23,713,694	11,487,770	8,646,276	4,837,212
Utah	April	111	84,169	.....	84,222	13,965	32,124	501	23,624	74,478	88.4	9,744	—1,727	—4,335	—19,448
	4 mos.	111	404,460	.....	404,691	63,689	128,304	1,885	110,641	321,614	79.5	83,077	29,149	22,955	12,770
Virginian	April	653	2,049,429	4,735	2,134,181	186,631	479,185	25,909	386,482	1,125,594	52.7	1,008,587	608,587	621,593	—846,099
	4 mos.	653	8,718,966	14,274	9,036,203	746,515	1,882,112	103,825	1,632,299	4,551,055	50.4	4,485,148	2,477,648	2,525,740	2,115,542
Wabash	April	2,394	5,217,155	375,032	5,947,699	679,494	735,899	159,272	1,924,616	3,691,620	62.1	2,256,079	1,182,286	810,637	567,679
	4 mos.	2,398	18,856,216	1,334,392	21,493,722	2,290,068	2,889,673	639,854	7,624,662	14,138,681	65.8	7,355,041	4,156,976	2,795,190	2,775,903
Ann Arbor	April	294	423,042	2,935	434,727	42,186	83,045	15,218	171,601	326,252	75.0	108,475	47,753	34,898	28,458
	4 mos.	294	1,629,811	9,770	1,670,704	147,308	323,572	60,773	719,606	1,300,717	77.9	369,987	200,781	140,383	181,406
Western Maryland	April	859	2,528,964	9,919	2,598,837	298,535	533,097	46,857	667,358	1,618,541	62.3	980,296	550,296	567,702	126,152
	4 mos.	859	8,606,342	37,175	8,884,800	895,800	1,951,783	183,699	2,385,669	5,685,732	64.0	3,199,068	1,929,068	2,019,339	1,829,422
Western Pacific	April	1,195	2,612,964	183,284	2,862,978	271,997	359,543	79,704	895,086	1,679,461	58.7	1,183,517	1,075,203	949,313	221,030
	4 mos.	1,195	9,230,381	484,433	9,954,365	1,123,110	1,426,176	300,099	3,604,077	6,746,072	67.8	3,208,293	2,710,972	2,185,599	645,199
Wheeling & Lake Erie	April	507	1,969,779	1	2,087,038	255,064	335,121	41,887	590,788	1,262,695	60.5	824,342	72,358	201,244	229,628
	4 mos.	507	6,686,115	6	6,985,457	816,200	1,340,252	164,194	2,121,517	4,593,821	65.8	2,391,636	221,259	834,142	1,336,000

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